THE DRUG AND COSMETIC INDUSTRY

ESTABLISHED 1914

Formerly Called "DRUG MARKETS"

May, 1932

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VOL. XXX — NUMBER 5

DRUG MARKETS, INC.

PUBLISHERS

Publication Office, 28 Renne Ave., Pittsfield, Mass. Editorial and General Office, 101 W. 31st St., N.Y. City

Editor: THOMAS R. FARRELL

Business Manager: FRAZER V. SINCLAIR

PUBLISHED MONTHLY AT PITTSFIELD, MASS., SUBSCRIPTION PRICE, TWO DOLLARS A YEAR, IN ADVANCE, FOREIGN COUNTRIES THREE DOLLARS, THREE WEEKS' NOTICE IS REQUIRED TO CHANGE SUBSCRIBER'S ADDRESSES, AND WHEN NOTIFYING KINDLY GIVE BOTH OLD AND NEW ADDRESSES; PRINTED BY THE SUN PRINTING COMPANY, PITTSFIELD, MASS. ENTERED AS SECOND CLASS MATTER, JANUARY 1, 1928 AT THE POST OFFICE AT PITTSFIELD, MASS., UNDER THE ACT OF MARCH 3, 1879.

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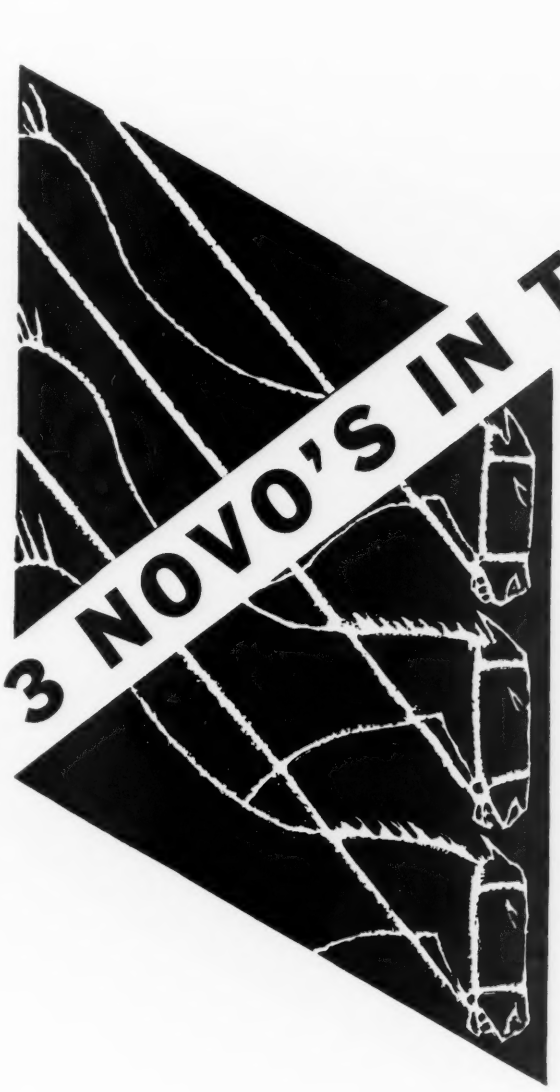

3 NOVO'S IN THE LEAD

NOVO-ROSE is unquestionably one of the finest perfume oils available today for a complete, low priced cosmetic line. It is $8 the pound.

NOVO-JASMIN, fragrant, powerful, and persistent, gives the jasmin note to a full cosmetic line.

NOVO-FOUGERE is for the full line, from creams and powders to extracts and bath salts. A delightful perfume oil at $8 the pound. Especially good in shaving creams.

Ask for samples of the Three Novo's.

GIVAUDAN-DELAWANNA INC.

80 FIFTH AVENUE NEW YORK, N. Y.

Buyers' Guide

RAW MATERIALS

ABSORPTION BASES

American Lanolin Corp.
American Lecithin Corp.
Th. Goldschmidt Corp.
M. W. Parsons, Imports

ALCOHOLS

Rossville Commercial Alcohol Corp.

AROMATIC CHEMICALS

Dodge & Olcott Company
Fritzsche Brothers, Inc.
Givaudan-Delawanna, Inc.
Magnus, Mabee & Reynard, Inc.
Sherka Chemical Co.
George Silver Import Co.
Ungerer & Co.
van Ameringen-Haebler, Inc.

BEESWAX

E. A. Bromund Co.
Theodor Leonhard Wax Co., Inc.
Will & Baumer Candle Co., Inc.

BORAX

American Potash & Chemical Corp.

COD LIVER OIL

P. R. Dreyer Inc.
Chas. L. Huisking & Co.
Norwegian Cod Liver Oil Association

COLORS

Interstate Color Co., Inc.

CRUDE DRUGS

J. L. Hopkins & Co.
Chas. L. Huisking & Co., Inc.
S. B. Penick & Company

DENTIFRICE BASES

Iliff-Bruff Chemical Co.
Industrial Chemical Sales Co., Inc.
John & E. Sturge, Ltd.

ESSENTIAL OILS

W. J. Bush & Co., Inc.
California Fruit Growers Exchange
Dodge & Olcott Company
Fritzsche Brothers, Inc.
Givaudan-Delawanna, Inc.
Magnus, Mabee & Reynard, Inc.
Plaimar, Ltd.
George Silver Import Co.
A. M. Todd Co.
Ungerer & Co.
van Ameringen-Haebler, Inc.

FLAVORING MATERIALS

W. J. Bush & Co., Inc.
California Fruit Growers Exchange
Dodge & Olcott Company
Fritzsche Brothers, Inc.
Magnus, Mabee & Reynard, Inc.
George Silver Import Co.
Ungerer & Co.
van Ameringen-Haebler, Inc.

GELATINES

Coignet Gelatines

GLANDULAR PRODUCTS

Wilson Laboratories

GLYCERIN

Colgate-Palmolive-Peet Co.
Will & Baumer Candle Co., Inc.

MEDICINAL CHEMICALS

Abbott Laboratories
Benzol Products Co.
Citro Chemical Co.
Consumers Import Co.
Dow Chemical Co.
Heyden Chemical Corp.
Chas. L. Huisking & Co.
E. C. Klipstein & Sons, Co., Inc.
Mallinckrodt Chemical Works
Merck & Co., Inc.
Monsanto Chemical Works
N. Y. Quinine & Chemical Works, Inc.
Chas. Pfizer & Co., Inc.
Schuylkill Chemical Co.
Sherka Chemical Co.
Swann Corporation

MINERAL OIL

M. W. Parsons Imports
Schliemann Companies, Inc.

SOAPS

J. L. Hopkins & Co.
Chas. L. Huisking & Co., Inc.
S. B. Penick & Co.
John Powell & Co., Inc.

VANILLIN

Fritzsche Bros., Inc.
Givaudan-Delawanna Inc.
Magnus, Mabee & Reynard, Inc.
Monsanto Chemical Works

CONTAINERS

BOTTLES

Foster-Forbes Glass Co.
Maryland Glass Corp.
Owens-Illinois Glass Co.
Swindell Bros.

BOXES

Cleveland Container Co.

COLLAPSIBLE TUBES

Art Tube Co.
National Collapsible Tube Co.
New England Collapsible Tube Co.
White Metal Mfg. Co.

GLASSINE PAPER

Riegel Paper Corp.

PACKING MATERIAL

Kimberly-Clark Corp.

VIALS

Kimble Glass Co

CLOSURES

CORKS

Armstrong Cork Co.

LINERS

Armstrong Cork Co.
Bond Mfg. Corp.

METAL CAPS

Aluminum Seal Co.
Anchor Cap & Closure Corp
Crown Cork & Seal Co.
Ferd. Gutmann & Co.
Phoenix Hermetic Co.

MOLDING COMPOUNDS

Anchor Cap & Closure Corp.
Armstrong Cork Co.
Resinox Corp.

MACHINERY & EQUIPMENT

FILLING MACHINES

Alsop Engineering Co.
Arthur Colton Co.
F. J. Stokes Machine Co.
Stokes & Smith Co.
U. S. Bottlers Machinery Co.

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Liquid Carbonic Corp.

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Mixing Equipment Co., Inc
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ESSENTIAL OILS
BALSAMS
AROMATIC CHEMICALS
OLEORESINS
CERTIFIED COLORS
BASIC FLAVORING MATERIALS
BASIC PERFUMING MATERIALS
PARAGON OLIVE OIL
OIL CHAULMOOGRA USP
ROSESOL MM&R
SPRAY PERFUME OILS
VENICE TURPENTINE
MOHAWK OIL PEPPERMINT
INFUSED OILS
TERPENELESS OILS
VANILLIN USP
JERALE MM&R
NATURAL ISOLATES
SPECIALTY FLAVORS

Business executives right now are striving to see what the immediate future will bring forth, trying to meet present conditions and place their products on a modern day competitive basis.

Research and scientific endeavor now play a more important role than ever before. The introduction of new ideas, new products and new manufacturing helps of a worthy note are vital for any enterprise that has the will to stay in the foreground of its particular field.

The MM&R organization has specialized in the importation and manufacture of Essential Oils, Aromatic Chemicals, Basic Flavoring and Perfuming materials since 1895. It is a constant link between you and the four corners of the earth from whence your requirements of these products emanate.

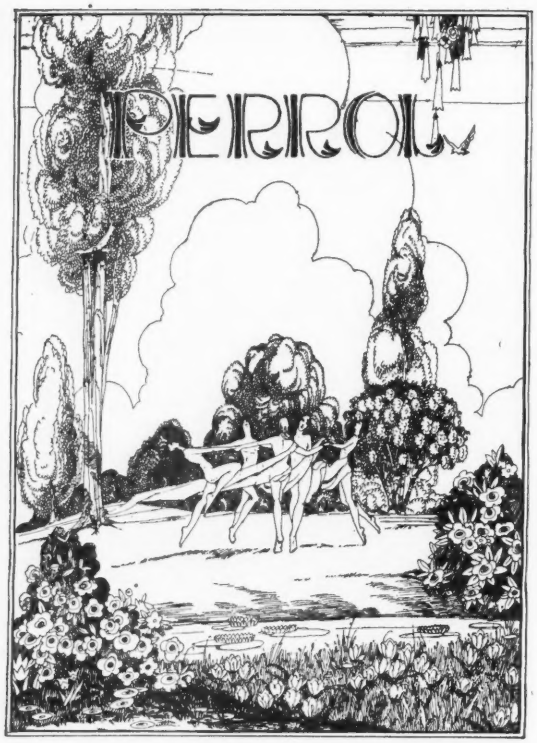
You probably would like news (not the history) of new specialties that would be of benefit in improving the formulae and manufacturing process of your products. The MM&R Sales Service Department can assist you. Check up on the products listed in the opposite column or let us send you the latest MM&R complete catalog.

MAGNUS, MABEE & REYNARD INC.

32 Cliff Street
New York

29 So. Clinton Street
Chicago

Founded 1895



What you can count on with PERROL

1—By itself, a wonderful cream odor.

2—By itself, a beautiful, flowery perfume.

3—Extremely fine powder odor when modified for the purpose.

4—Above all, a most valuable ingredient in your own compositions where you want the *real floweriness* of fresh cut blossoms. Not any one flower, but the dewy freshness of a morning bouquet. Use it 5% to 35% in flower compositions.

Send for sample

van Ameringen-Haebler, Inc.

Manufacturers and Importers of

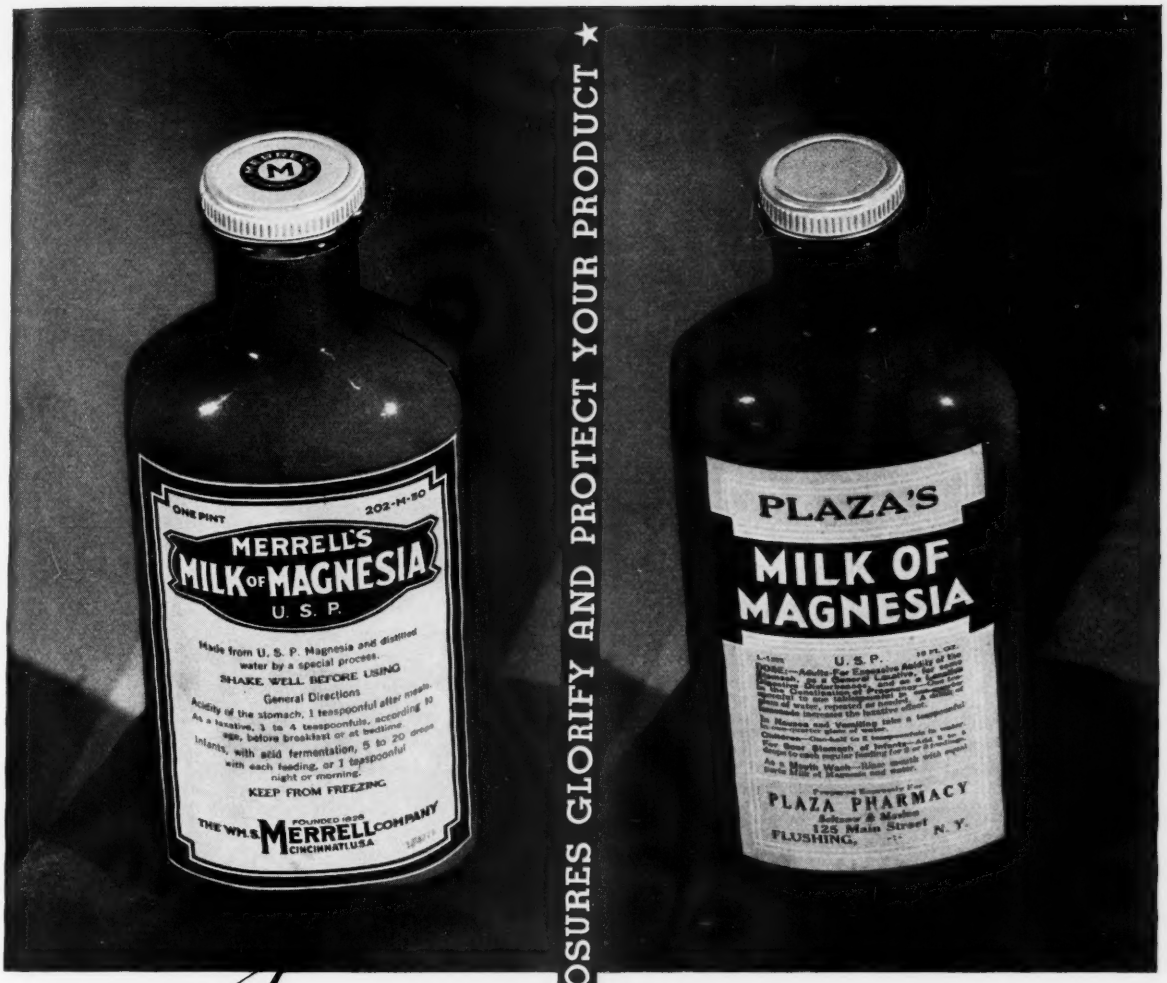
Aromatic Essentials

{ *Flavor Materials, Aromatic Chemicals*
Essential Oils, Perfume Specialties }

315 FOURTH AVENUE, NEW YORK

180 North Wacker Drive, Chicago 619 Clark Avenue, St. Louis 42 Wellington Street, E., Toronto

Factory, Elizabeth, N. J.


ONE PINT
202-M-50
MERRELL'S
MILK OF MAGNESIA
U. S. P.
Made from U. S. P. Magnesia and distilled water by a special process.
SHAKE WELL BEFORE USING
General Directions
Acidity of the stomach, 1 teaspoonful after meals.
As a laxative, 1 to 4 teaspoonfuls, according to age, before breakfast or at bedtime
Infants, with acid fermentation, 5 to 20 drops with each feeding, or 1 teaspoonful night or morning.
KEEP FROM FREEZING
THE WM. S. MERRELL COMPANY
FOUNDED 1828
CINCINNATI U.S.A.
PLAZA'S
MILK OF MAGNESIA
U. S. P.
PLAZA PHARMACY
125 Main Street
FLUSHING, N. Y.

ANCHOR CLOSURES GLORIFY AND PROTECT YOUR PRODUCT ★

A TALE OF TWO PACKAGES

★

Both packages capped with Anchor Amerseal Caps

We are proud of the one cap because it guards a name and a product sold from coast to coast. Because it protects a reputation built up through years of public favor. Because it makes the product more accessible...the package more attractive...the consumer more pleased.

We're just as proud of the other. Because it does the same job equally well for a similar product, whose distribution is confined to the immediate locality served by this one drug store. The advantages that Anchor Amerseals provide are just as important for successful merchandising in the one case as the other.

To point to with pride is all very fine—but the main point is that Anchor has the facilities and the knowledge and the desire to serve. If the requirements run into the millions, we can handle them promptly and efficiently. If only a few caps are involved, we're equally as interested. If it's a question of a product that presents a tough sealing problem, we will put the time and the talent on the job 'till it is licked.

A Suggestion that "Clicked"

If the Anchor man in this incident had been content merely to sell an order of Anchor Amerseal Caps, there would have been no incident. The product was cold cream; the package not all that could be desired; the closure not as efficient or convenient as it might be. The Anchor man refused to do the easy and the obvious, but recommended a complete modernization of the package—a redesigned label, elimination of a superfluous outer covering, a decorated Anchor Amerseal Cap to harmonize with the label, for better protection, more easy removal and convenient replacement by the consumer. Then he assisted in putting these changes into effect...as a result sales zoomed, many times their previous figure.

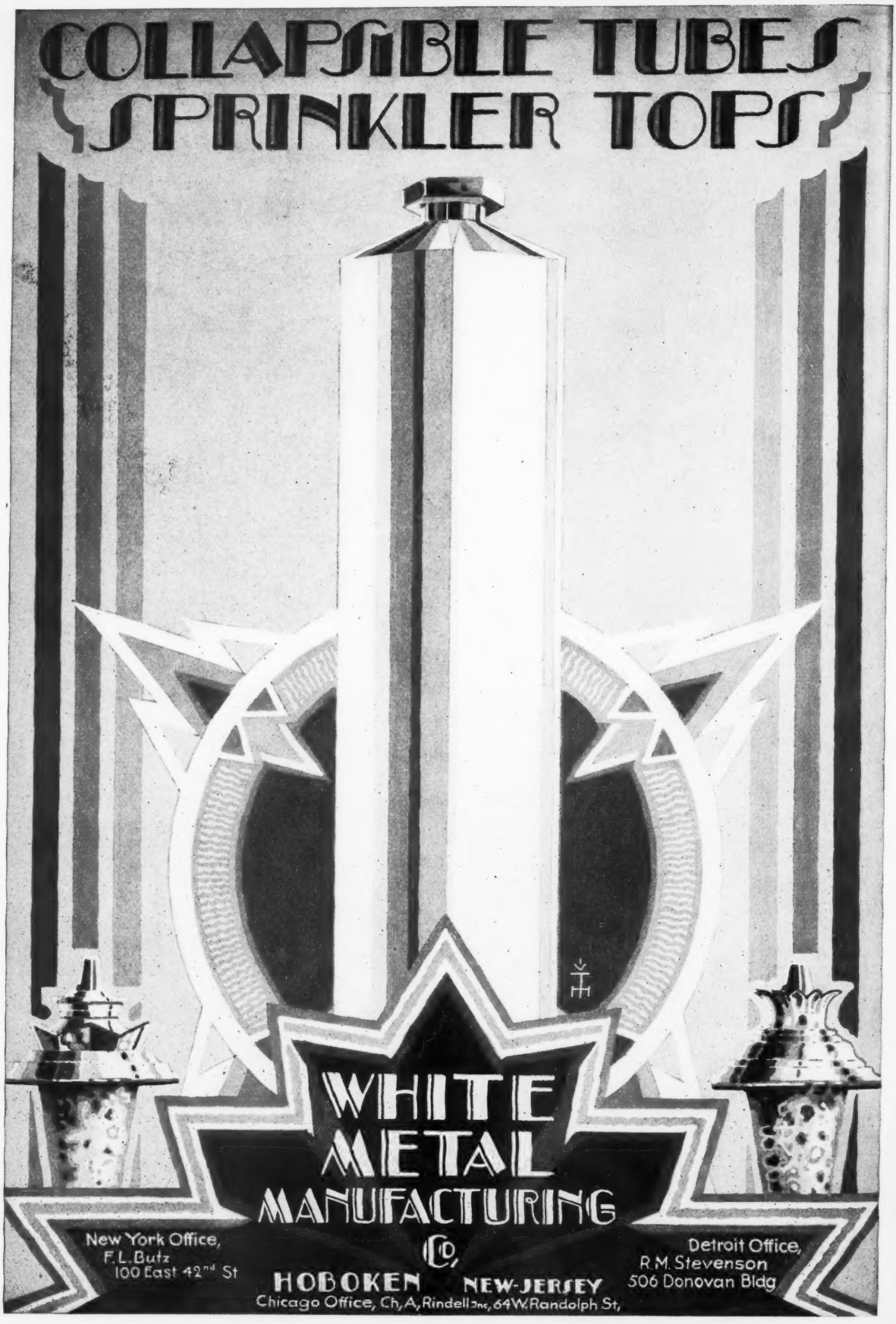
To the manufacturer naturally belongs the lion's share of the credit, for his initiative, his intelligent aggressive merchandising—but we can't help but feel that our representative rendered a very real service, the kind we like to see.

Anchor Cap & Closure Corporation

Long Island City, N. Y. Toronto, Canada

Branches in all Principal Cities

ANCHOR IS CLOSURE HEADQUARTERS


COLLAPSIBLE TUBES
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WHITE
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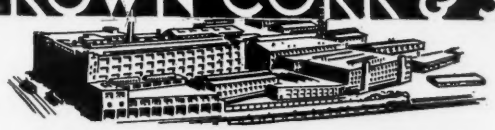
This BOOK *gives* YOU THE ANSWER *to most of* YOUR SEALING PROBLEMS

The place to end sealing troubles is right where they begin — in the cap. This book explains the tremendous advantages of Positive Sealing Pressure and what it means to you in the sealing of glass packed products. It is written in simple language and is interestingly illustrated. Every packer of products-in-glass will find it a valuable guide and reference in the solution of sealing problems. Send for your complimentary copy—now.

Send for it Today

CROWN CORK & SEAL CO. Baltimore Md.



WORLD'S LARGEST MAKERS OF CLOSURES FOR GLASS CONTAINERS

Crown Cork & Seal Co., Baltimore, Md.

Send a copy of your new book, "Positive Sealing Pressure"

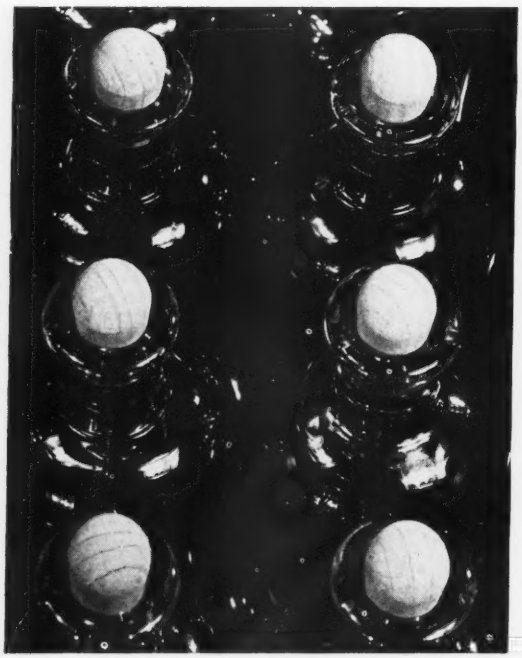
Name .....

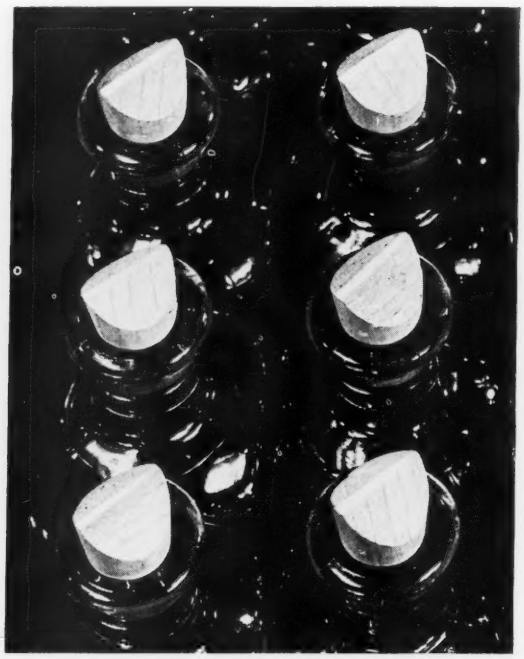
Street .....

City ..... *State* .....

STYLE IN CORKS?

SEE *these* SMART SHAPES





DRESS UP YOUR PACKAGES WITH ROUND OR WEDGE TOP CORKS

THEY'RE style leaders among corks . . . these round and wedge top shapes. Add color and beauty with a tamper-proof Cellulose Cap and you have a package fit for any market.

You'll like the honest, dependable grading, the accurate shape, and the lively strength of all Armstrong's Corks. These qualities mean freedom from trouble in your production line and they assure tight seals.

Cellulose Caps can be used effectively with these stylish corks.

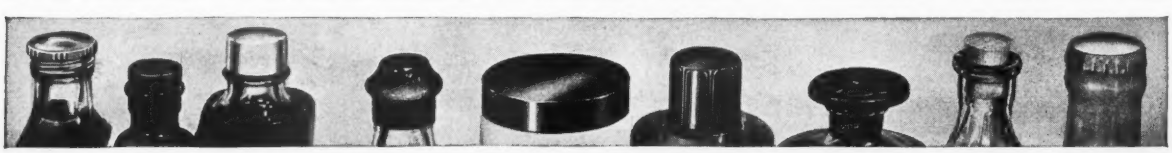
Whatever grade, size, or shape you need—tapered, straight, shell, flange, or special corks—Armstrong can supply them. Samples and prices on request.

COMPLETE CLOSURE SERVICE. Let our closure specialists help you with questions of package designing and closure selection. Our Package Styling Department is at your service, will cheerfully design your label, bottle, or jar as well as the closure; and our laboratories will run tests to determine which closure you need. A complete line (see list below) enables us to give you sound recommendations that are wholly unbiased.

Make use of this free service. Mail a few sample bottles and details of your problems to the Armstrong Cork Company, 913 Arch St., Lancaster, Pa.

Armstrong's Corks

Armstrong offers CORKS OF ALL KINDS . . . ARTMOLD CAPS AND JAR COVERS . . . ARTMETAL CAPS . . . EMBOSSED TOP CORKS . . . DAUBERS . . . CAP LINERS
DU PONT CELLULOSE CAPS . . . DU PONT CELLULOSE BANDS . . . APPLICATORS OF ALL KINDS . . . RUBBER STOPPERS . . . CROWNS . . . BUNGS



EMERALD GREEN

● Many of our customers have taken advantage of the striking effects obtainable with Owens-Illinois Emerald Green glassware as a means of adding sales appeal to their containers. The use of this deep, rich color intensifies the selling effect of each of the packages shown . . . makes each a vividly interesting factor in any display group . . . makes it stand out on shelf, counter or in the retailer's window.

Perhaps you have a packaging problem in which the use of Emerald Green glass might prove interesting. We shall be glad to work with your merchandising executives toward the solution of any such problem. Owens-Illinois Glass Company, Toledo, Ohio.

OWENS-ILLINOIS

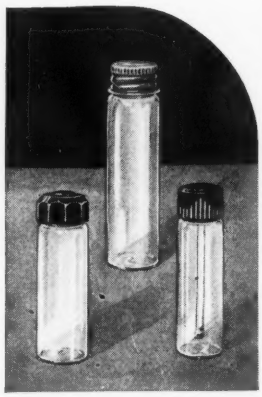
BOTTLES AND GLASS CONTAINERS

"...don't forget, Jim... they're in glass vials!"

Buying pharmaceutical products is almost entirely a matter of consumer confidence.

For years Kimble automatic-machine-made retempered vials have helped drug, pharmaceutical and perfume manufacturers to insure safety and sales appeal for their products. Kimble Vials are distinctive in their unusual strength and lightness in weight. They are the only vials made by automatic machines.

Realizing that modern glass packaging inspires greater confidence in a product and secures more substantial sales, manufacturers employ Kimble Vials at the rate of 1,500,000 gross every year—a vast army of glass containers, automatically fabricated, uniform in quality and attractive in appearance.



For safety and sales appeal—package in Kimble Glass!

KIMBLE GLASS COMPANY

VINELAND, NEW JERSEY.

BRANCH OFFICES:—New York, 1440 Broadway; Philadelphia, 1616 Walnut Street; Boston, 131 State St.; Chicago, 23 N. Desplaines St.; Detroit, General Motors Bldg.

The FACTORIES BEHIND THE TUBE
SHEFFIELD
PRO
PRO
The B
NEW ENGLAND COLLAPSIBLE TUBE CO.
PLAIN OR DECORATED
EASTERN OFFICE AND PLANT
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PHONE - NEW LONDON 5319
WESTERN OFFICE AND PLANT
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CHICAGO, ILL.
PHONE - VICTORY 4200
NEW YORK OFFICE
370 LEXINGTON AVENUE
CORNER OF 41ST STREET
PHONE - ASHLAND 7813-7814
1932

Mallinckrodt
BISMUTH SALTS

Fifty years ago Mallinckrodt Bismuth Salts were largely used by pharmaceutical manufacturers . . . . . .

Today in a special unit of the St. Louis plant a battery of Tourelles is in steady use dissolving Bismuth Metal preliminary to further manufacturing processes that turn out the finest grades and kinds of bismuth salts for chemical and medicinal purposes . . . . .

As with all chemicals we produce, Bismuth Salts are carefully controlled as to chemical purity and physical form by our system of laboratory checking and lot marking . . . .

A few of the Mallinckrodt Bismuth Salts

BISMUTH BETA-NAPHTHOL
BISMUTH CHLORIDE
BISMUTH CITRATE
BISMUTH HYDROXIDE
BISMUTH LACTATE
BISMUTH NITRATE
BISMUTH OXALATE
BISMUTH OXIDE
BISMUTH OXYCHLORIDE
BISMUTH OXYIODIDE
BISMUTH PHENOLATE
BISMUTH PHOSPHATE
BISMUTH SALICYLATE
BISMUTH SUBBENZOATE
BISMUTH SUBCARBONATE
BISMUTH SUBGALLATE
BISMUTH SUBIODIDE
BISMUTH SUBNITRATE
BISMUTH SUBSALICYLATE
BISMUTH SULPHO-CARBOLATE
BISMUTH TANNATE

A complete catalogue of Bismuth Salts and 1400 other products will be sent on request

School of Pharmacy
University of

An Editorial

Increased Activity

HAVING lived through two and one-half years of the "greatest" depression, it seems certain that those concerns who have been constantly on their toes fighting for business in an intelligent manner will continue in business until things right themselves. True enough, there will be more failures before conditions appear much brighter, but the firms which go out of business will do so mainly because they have failed to recognize conditions as they really exist.

IN THE first place business is far from a standstill. A large number of people are working and a still larger number are living and consuming. Business in all lines is available, even though at reduced prices and in reduced volume. It is more difficult to find business and still more difficult to obtain it after it is discovered. However, the discouragement that comes to those weaker sisters who refuse to try to get business after a few rebuffs, is something that can be and is being used to advantage by those who are not "too proud to fight."

THE best way to stimulate business is to go after it. If every one were to sit on the sidelines and wait for a recovery to come of itself, it would never come. Every call on a business prospect instills in the mind of the buyer the fact that business is not dead as he thinks, and that there must be something the matter with him if he is not able to buy the goods offered him. He can not conceive that the salesmen believe that they are wasting their time calling on him, and he imagines that his competitors are buying in larger volume than he is and that therefore he is losing ground and must get busy.

THOSE who will go after such business as is available and will, by intelligent cooperation, attempt to get their customers to improve their own volumes of sales, are working not only in their own interest but in the interest of the entire country. Soon the depression will be a memory and those who fought their way through it will be better off for having done so. Every man's own selfish interest lies in increased activity.

The Hope of St. Louis

Only a hopeless cynic would be of the opinion that the St. Louis Drug Survey was of no avail. Yet how often in the past have practically all the facts and opinions aired at the recent conference been stated and restated with no apparent effect upon the status of the drug retailer? The fact that destructive competition comes largely through ignorance will not be removed by a single attempt to impress upon drug retailers how they are losing money. Many of them will continue in the same uneconomic abuses, and others will not even take the trouble to acquaint themselves with the survey facts.

The retail drug trade has long been in pitiable condition largely due to the actions of some members of the trade themselves. Attempts at education will not remove these disturbing factors any more than it will remove the predatory price-cutting on drug and cosmetic items by the department stores and other stores, some of which use their entire drug and cosmetic departments as loss leaders for the other profitable departments within the stores.

Improvement may come from the survey, but only in scattered places not in close proximity to those retailers who choose to disregard all such facts. Widespread improvement can not come until Congress is willing to base legislative action on these facts which have been independently determined by a government agency. But at the same time the retail drug trade must be made to realize that an arbitrary price-fixing law such as the Capper-Kelly bill is out of the question, and that it must lend its support to the Copeland amendment to the Federal Trade Commission Act which would prevent any retailer from selling his goods below cost plus a reasonable profit.

• • •

Ten Years Ago

From our pages, May 1922

A. H. Wirz, Inc., Chester, Pa., manufacturer of collapsible tubes, has opened a New York office at 30 East 12 St.

Gilbert Colgate was elected President of Manufacturing Perfumers' Assn. to succeed F. W. Jones. At the meeting it was decided to ask for a duty of 100 per cent. on perfumery as a protection to the industry.

Cod liver oil is two hundred times more potent in vitamins than butter, according to the statement of Professor Harden, of the University of London, in an address on the subject of vitamins before an audience of London teachers recently.

The Seydel Chemical Co., 120 Broadway, New York, is enlarging its plants at Nitro, W. Va., and Jersey City, N. J. The Nitro Products Corp. and Seydel Mfg. Co. are now united.

• • • New and Non-Official • • •

• • •

Add to Famous Women

This department is in receipt of a letter from Mrs. Ella R. Berry of St. Louis, commenting upon our list of famous women published in last month's column. Mrs. Berry writes that she started business in this industry in New Orleans in March 1882. On the 15th day of that month she made the first sale of her full line to E. J. Hart Wholesale Drug House and she has operated continuously ever since. She was one of the first national advertisers in the United States and recently celebrated her fiftieth anniversary of successful business. We are glad to add her name to the honor roll of famous names in this industry and wish her many more years of continued success.

• • •

Sparking at the A. M. D. A.!

Reports emanating from the A. D. M. A. convention at White Sulphur have it that there was considerable sparking going on. It was further reported that Dr. "Mort" Bye of the Wm. S. Merrell Company, was one of the chief offenders in this matter.

In checking up these reports, your correspondent found out that there was considerable to be said in extenuation of the good Doctor. In the first place, the only lady involved was his wife. In the second place, the dry atmosphere and the heavy carpets made it very easy for the Doctor to get all charged up with static electricity so that when he kissed the unsuspecting Mrs. Bye, considerable sparking resulted.

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Maybe We're Reaching That Corner

Recently we've had quite a flood of two- and five-year subscriptions and we wonder if that's a sign that there is a growing confidence in the future.

So far as this column is concerned, we refuse to believe that good times are here once more until somebody calls us up and asks about a good substitute for glycerine.

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Speaking of Election Years

The business research division of the Tubize corporation is authority for the following: Of 33 election years since 1800, business was above normal 16 times, below normal 13 times, and normal four times. The trend of business was definitely upward 12 times, downward nine times, and indefinite 12 times.

We are not sure just what this proves, but we will state definitely that we will not accept the nomination under any circumstances.

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Sue 'Em, Say We

The word "tabloid," used with such reckless abandon to describe the smaller-size daily papers, is copyrighted and belongs to Burroughs, Wellcome & Co.

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Appendectomys by Mail?

Montgomery Ward has started to offer medical service by mail, beginning with urine analyses. Maybe they will include glands in their next catalog so that we can buy those by mail with complete instructions for attaching them properly.

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Recommended for Nudes

Police authorities are using itch powder to suppress nudist cults. Since suppression only increases desire, we recommend that nudists be offered sunburn preventives. Either way, our industry benefits.

Packaging Trends

This article gives the results of a survey conducted under the direction of THE DRUG & COSMETIC INDUSTRY to determine how the products of this industry are packaged. This study of the actual facts will prove interesting.

For some time this journal has felt the need for a thorough inspection of packages selling in the retail drug store with a view to determining accurately the trends in packaging of the successful products. Naturally a complete tabulation of all the packages in stock in a drug store would not lead very far, since every drug store carries many items that do not move very rapidly partly due to the fact that they are poorly packaged. Also every drug store carries many items of a local nature that are not indicative of the trend in a national way.

Also there are products of manufacturers who have such broad lines that their products, if all tabulated, would weigh the trend too far in one direction. Squibb, Parke Davis, and others, for instance, will be found in almost every department in the store, and in many departments will be found many times with packages which are very much alike.

Hence it was necessary to exercise judgment in recording the packages. Many fine products of local manufacture, of wholesalers, of private brand manufacturers,—products which enjoy an excellent sale and reputation in restricted territories—could not be included en masse for the reasons stated. Furthermore, many of these packages are designed in a manner which makes them decidedly attractive, but distribution of them in a national way would make it questionable whether the same packaging methods could be employed. Therefore, it was necessary to confine the inspection to products known to have national distribution, and known to be successful or moderately fast sellers.

The inspection was conducted in two of the largest stores we could find. One was Lascoff's, in New York City; the other was Ulmschneider's Pharmacy, Bay Shore, Long Island. Neither of these stores is a price cutter. Both stock exclusive lines such as Elizabeth Arden, Dorothy Gray, etc. Both have extremely large and diversified stocks — Ulmschneider's being the largest.

The aforesaid elimination of products reduced the number of packages which had to be analyzed to less than five hundred. No large manufacturer's line was ignored. But, when we found in any one classification several different products made by the same manufacturer, and packaged alike we examined and tabulated only one so as not to overbalance the final result. In the several drug categories Abbott, Squibb, Upjohn, Parke Davis, Hoffmann-LaRoche, Merck and others were represented by several different products all packaged identically; in the cosmetic categories, especially in creams and in lotions, the same situation was found in regard to the products of Arden, Gray, Ayer, Hudnut, Rubenstein, Armand, Hopper, etc. Some of them had as many as twenty different products all packaged the same way—the family way.

We started out to find the answers to the following questions:—What progress in design has been made to date? How many products have cartons and how many have not? How many products are wrapped and in what are they wrapped? What kind of closures predominate? With how many labels are these packages decorated? How many manufacturers use special mold containers and how many stock? How many are good production packages and how many bad? How many use two colors; three; four; more than four? What colors are found most frequently? What kind of glass predominates?

After making a casual inspection of the stock carried we perceived that we should have to classify the types of design according to the following groups:—modern, professional, old fashioned and nondescript. In the first group were put all packages showing modern influence and designed in comparatively good taste. In the second were put the packages of companies whose fashion is dignified and professional, like Parke Davis, Merck, Upjohn, Squibb, Hoffmann-LaRoche, etc. The next group, the old fashioned category must not be interpreted in a derogatory light because many of the packages put into this group, though they are out of step with the modern trend, are, notwithstanding, extremely attractive. Some of them, indeed, have a time-

Drug Products

	Antiseptics and Mouth Washes	*Cough Syrups*	*Tonics*	*Laxatives*	*Liniments*	*Ethical and Gen'l Medicines*	*Salves & Ointments (Jars)*
Design:							
Modern	25	31	3	5	9	24	6
Professional	19	12	30	50	9	58	12
Old-Fashioned	25	39	57	25	64	12	45
Nondescript	31	18	10	20	18	6	37
Cartons:							
With	69	69	40	65	91	61	94
Without	31	31	40	30	..	33	..
With Carts and Wraps	..	..	20	5	9	6	6
Wrappers:							
None-plain bottle	12	6	..	..	..	..	..
Cellulose	..	..	..	..	..	6	..
Glassine	19	31	30	30	..	24	..
Plain paper	..	6	10	5	..	12	..
Closures:							
Metal	50	70	30	85	36	81	100
Plastic	6	6	..	..	..	..	..
Corks	44	18	67	15	64	16	..
Special	..	6	3	..	..	3	..
Labels:							
One	56	69	70	55	100	65	75
Two	26	25	30	45	..	29	25
Three	6	6	..	..	..	..	..
Neckbands	12	..	..	..	9	6	..
Molds:							
Special	88	69	100	100	72	76	86
Stock	12	31	..	..	28	24	12
Production Efficacy:							
Good	81	88	90	100	82	97	75
Poor	19	12	10	..	18	3	25
Colors:							
Two	31	38	50	40	55	24	25
Three	44	62	50	35	36	66	63
Four	25	..	..	25	9	10	12
Color Frequency:							
White	75	42	40	55	90	76	75
Gray	6	..	20	5	..	6	6
Yellow	38	6	..	10	9	..	..
Cream	12	24	30	25	..	10	12
Orange	..	12	35	10	18	12	..
Brown	4	12	10	20	..	35	24
Red	44	48	30	35	36	29	12
Blue	44	18	40	15	18	29	24
Green	19	31	10	20	27	42	75
Black	44	48	75	50	54	35	86
Glass:							
Opal	..	..	..	..	..	..	75
Flint	86	82	82	75	100	51	..
Amber	12	12	15	5	..	37	..
Blue	2	6	3	3	20	12	25

Figures in each column represent percentages of the total packages inspected. In the case of labels the percentages will be found to add to more than 100 where neckbands are included. This is because neckbands were considered distinct from labels. Also viscose caps and the cork or cap with it were recorded twice so that viscose caps must be excluded in arriving at 100 per cent. in closures. Color frequency likewise will be found to add to more than 100 per cent. for the obvious reason that all packages contain more than two colors.

less quality which made them appealing fifteen or twenty years ago and possibly will make them not less appealing twenty years hence. Yardley is of this group. Dorothy Gray, Elizabeth Arden, Armand, and others. We were compelled to add the nondescript category because of the number of designs which were simply horrible and could not be classified in any other way. Many of these are characterized by an unskillful attempt to combine professionalism with modernism, the old and the new fashion. Most of them lack even the virtue of quaintness associated with Victorian packages and all of them seemed to have been designed by a plumber.

In the modern class were included some packages that were "modernistic"—that is some which appeared to have been designed by a cubist on a spree. These we felt ought to have had a chamber of horrors of their own but there was nothing for it but to classify them with such distinguished modern packages as Gilbert's Oral Antiseptic, Palmolive Shampoo, Rem, Gemey, etc.

One of the interesting impressions acquired from comparison of a great many different packages is that professional packages in simple black and white can actually be more distinguished looking than many of the modern packages upon which much ingenuity is lavished and some of the new professional designs are so distinguished in their rich simplicity that it was difficult not to classify them as modern. The newer packages of Merck, Hoffmann-LaRoche, Parke Davis and Eli Lilly are of this order of merit. Many of the older professional packages achieved an air of good taste, apparently without consciousness of having done so. Invariably, a bottle and a screw cap forms the basis for these old professional packages. A single label of gray or white is placed on the front; it is given a simple, black ruled border with no attempt at ornamentation, and the type face—Caslon, Goudy, Gothic, or Garamond—is arranged thus:—large bold face at the top, small lower case in the body; medium capitals at the foot; and the whole package is wrapped in snug fitting glassine or enclosed in a carton very simple in design. In many cases, unfortunately, some manufacturers, desiring to retain the professional air of the old packages, while appropriating the modern appeal of the new, succeeded in achieving sorrowful looking abortions that are neither one thing nor the other, and, in consequence, were classified by the surveyors as nondescript.

Another impression made upon the observers was that the packages designed by independent artists stand out like beacon lights among all others. A group of these packages were selected and checked up with the manufacturers. Almost without exception they were the creations of independent artists, some of whom are very well known. This does not necessarily imply an actual superiority of professional designers over

Summary Cosmetics

	Creams	*Lotions*	*Hair Preparations*	*Shampoo Soaps*
Design:				
Modern	57	68	33	54
Old-Fashioned	34	21	50	38
Nondescript	9	11	17	8
Cartons:				
With	65	17	62	46
Without	35	77	25	54
Half	..	6	13	..
Wrappings:				
None–plain bottle	25	63	21	38
Cellulose	8	11	4	16
Glassine	..	3	..	..
Closures:				
Metal	77	26	66	69
Plastic	17	46	17	23
Corks	..	25	13	..
Vis and Gel Caps	..	24	4	..
Special	6	3	4	8
Labels:				
One	51	43	37	61
Two	41	57	50	31
Three	..	..	..	8
Neckbands	..	17	25	23
No Labels	8	..	13	..
Molds:				
Special	79	91	87	77
Stock	21	9	13	23

	Creams	*Lotions*	*Hair Preparations*	*Shampoo Soaps*
Production Efficacy:				
Good	63	66	92	92
Poor	37	34	8	8
Colors:				
Two	21	40	17	23
Three	48	45	57	46
Four	26	15	13	31
More	5	..	13	..
Color Frequency:				
White	60	42	66	69
Gray	6	6	17	..
Silver	14	26	12	16
Gold	42	24	..	16
Yellow	8	12	4	38
Cream	8	8	..	..
Orange	6	3	4	..
Brown	3	3	13	31
Tan	6	6	4	..
Red	45	31	42	31
Pink	6	3	4	..
Purple	12	8	4	..
Blue	17	17	29	16
Green	24	26	33	31
Black	66	57	54	46
Glass:				
Amber	..	..	17	31
Blue	3	..	..	..
Flint	21	100	83	69
Opal	76	..	..	..

One of the smartest creations which has been produced recently is the new astringent package by Charles of the Ritz. The fluid is rose-colored, and the bottle an extremely graceful one crowned with a double-shell metal cap with a silvery finish and label to match. The new package harmonizes in every respect with the familiar Charles of the Ritz cream package. Picture courtesy Armstrong Cork Co.

Terri's new dusting powder is uniquely packaged in that the container is of tin with the sifter-top feature as shown.

A new development by Bond Manufacturing Corp. is the application of lithography to opal glass jars. The jar illustrated here has been decorated in black and cream as indicated. The cream effect is carried completely around the jar and also acts as a background for the black as shown. The neck and bottom of the jar are left free of color. This process is now available for the decoration of jars in an unlimited range of designs and colors.

Robert has recently adopted a box for his familiar "Oriental delicat" perfume. The box has a hinge-top as shown and is finished in red and gold to match the bottle.

These new packages by Eli Lilly & Co., Indianapolis, illustrate the growing tendency among pharmaceutical manufacturers to produce a professional package that is at the same time a beautiful package. Lilly is using this attractive desk stand to introduce its recently developed antiseptic, "Merthiolate," to the doctor. The packages are complementary—the tincture on the left carrying out a yellowish-orange color scheme, and the solution at the right carrying out a green color scheme. The tincture is equipped with a yellowish-orange rubber stopper with applicator, and the solution a green hollow-rubber stopper with dropper. The bottles are not completely round, a flat panel being left on the front. This panel is completely filled by the metal label as indicated by the accompanying photograph. The label has a silver finish and is a particularly happy choice in this case because any stain left by the antiseptic may be washed off. The bottles are mounted on a black glass stand and the combination makes a very pleasing and very effective adjunct to the doctor's desk. The tincture is, of course, for external use only and for those who like an antiseptic which leaves a stain, while the solution is stainless.

designs employed by packaging material houses. It seems to indicate that manufacturers who employ professional designers are apt to accept their work without insisting upon ruinous modifications. Whereas, on the other hand, manufacturers getting something for nothing from their packaging material suppliers will often spoil perfect designs by insisting upon incongruous changes. How else can all the "not quite" designs be explained? Many packages were found that would be exquisite if one could ignore the presence of certain incongruous elements that betoken the heavy hand of the purchasing agent or salesmanager intent upon satisfying his own artistic ego.

On the whole it appears that the drug and cosmetic industry, though it leads all others, has only just started to spruce up. Even in the cosmetic branch of the industry there is still much room for improvement. There are large groups of fast selling drug products—tonics, laxatives and liniments, for instance—which have hardly been touched by the modernization trend. Antiseptics, mouthwashes and cough syrups have to a greater extent responded to the beneficient influence of modern design—some of them being equal to the best that has been accomplished in the design of lotion packages and even better than most. Ethicals and general medicines lean to professionalism, and strange as it may seem, this group, if the present trend continues, may outstrip all other drug products and we are likely eventually to witness a mergence of the simplicity of modern design with the dignity of professional design. This trend is manifest in one instance in the distinguished ethical package of Eli Lilly illustrated elsewhere in this issue.

In the design of toilet creams, lotions, hair preparations, shampoo soaps, face powders and depilatories, modernism in design predominates by a very liberal margin. In contradistinction with drug products, cosmetics have a tendency to lean toward the extreme in design and some of them are so bizarre that they are likely to be outmoded in a very short time. It is a strange anomaly that the conservatives, who favor designs of a more or less timeless nature, such as Arden, Dorothy Gray, Armand, Hudnut, Yardley, Ayer, seem to be able to hold their sales volume against the attacks of the extremists. There's a moral here somewhere.

Tablets and pills, because of their uniformity, (all of them seeming to lean toward conservative professionalism) were omitted from the survey.

In tabulating the color frequencies shown in the following tables, we were influenced only by colors which played an *important* part in design. If, for instance, white were employed only as edging it was omitted. If black were employed only in fine print—directions, etc., it likewise was omitted. It is obvious that a very strict analysis would show such a predominance of black and white, that the impression would be given that most drug and cosmetic products are black and white which is not true at all. Almost every package shows at least a little black or white but the observer is not conscious of its presence unless he looks for it with a critical eye. The brighter and more powerful colors always dominate the design. Only when white or black was used as a background, or for lettering; and also when one or the other played a conspicuous part in the general design was it tabulated.

In studying the table one must be careful not to accept the majority figures, as indicating a preference which the trade is following and to which it will adhere, without first taking into consideration the status of the group as revealed by the design classifications. Thus, in studying Tonics it is seen that the percentage of modern designs is abnormally low and that this gives the reason for the preferences shown in the packaging material and color categories. On the other hand, a study of the Lotion table, which shows the highest percentage of modern designs, will undoubtedly reveal the trend in packaging that type of product.

Drugs and Cosmetics in Tubes

	Shaving Cream	*Tooth Paste*	*Depilatory*	*Toilet Creams*	*Salves & Ointments*
Designs:					
Modern	66	65	84	66	...
Professional	4	6	8	34	75
Old-Fashioned	9	11	8	...	..
Nondescript	21	18	..	...	25
Cartons:					
With	100	100	100	100	43
Without	..	..	..	..	57
Closures:					
Metal	25	23	..	17	88
Plastic	75	77	100	83	12
Colors:					
Two	21	40	17	17	62
Three	50	60	50	66	38
Four	29	..	17	17	..
More	..	..	16	..	..

	Shaving Cream	*Tooth Paste*	*Depilatory*	*Toilet Creams*	*Salves & Ointments*
Color Frequency:					
White	71	71	50	34	88
Gray	4	..	..	34	..
Silver	..	..	17	34	75*
Gold	8	6	17	17	..
Yellow	29	18	17	17	..
Cream	..	12	..	17	..
Orange	21	12	17	..	..
Brown	4	6	17	..	12
Tan	4	12	..	..	..
Red	33	35	50	34	6
Pink	..	..	..	34	..
Purple	..	..	17	..	6
Blue	46	41	34	34	18
Green	33	29	66	34	12
Black	46	18	34	34	88

*The preponderance of silver in the ointment column is owing to the practice of many pharmaceutical manufacturers to refrain from coloring their tubes in any way, relying simply on paper labels pasted on the tubes.

One of the many interesting things noted during the survey was that manufacturers, whose long established products are packaged in an old-fashioned manner, invariably bring out their new products in modern dress. The introduction of new products dressed in the latest fashion and the avoidance of changes in the packages of established products, seems to indicate a wide spread fear of the effect that radical package restyling would have upon the sale of established products. Another interesting observation was made to the effect that the younger manufacturers are more intrepid than the older ones in regard to package design changes. Once they decide upon a change they usually restyle their entire lines at one fell swoop. Perhaps, this is due to the fact that being newer to the field they are more up to date and more keenly aware of the value of good packaging—and also because they have less at stake as a general rule.

We were much impressed by the fact that the drug manufacturer either rests content with his old-fashioned packages or else strikes out along an original path and does the restyling job in excellent taste. He follows nobody. The opposite is true of cosmetic manufacturers. What the leaders do, the rest of them emulate. This is reflected in the color frequency chart showing the unusual preference for gold and silver, red and black. It is interesting to note that while creams, lotions, hair preparations and shampoo liquids have gone modern along American lines, face powder packages still show predominantly the French influence. This may be due, perhaps, to the fact that the French houses, Coty, etc. have dominated the face powder field—and apparently still do. Many of these long established firms have not changed their packages within the past ten years. It is not less interesting to reflect that the object of the French designers has not been to keep up with a trend, or to follow the thought of any one school of package design; their object seems to have been to create objects of art, and in striving for beauty *per se* they have succeeded in giving their work a timeless quality which makes it impossible to call the powder boxes of Coty, Houbigant, Hudnut, Roger & Gallet, old-fashioned, even though some of them were designed twenty or more years ago. There's another moral in this.

We were surprised by the fact that face powder boxes are not more generally equipped with windows so that the consumer can readily inspect the color of the powder. In opening the boxes to see whether they had windows or not, we found that an extremely large number of those without windows had had the drums punctured, apparently by women desirous of inspecting the color. In every one of these instances powder had spilled out and when we removed the lids we were sprayed with it. Evidently there is still much room for improvement in the construction of powder boxes. Most of those inspected, even those whose drums had not been broken, sifted in some degree.

While stock glass containers have not yet generally been used by large firms, it was observed that most of the large firms have standardized the containers for specific lines. This is notably true of Squibb, Parke Davis, Merck, Hudnut, Harriet Hubbard Ayer, Arden, etc. In other words they have reduced the number of different container styles to a few simple ones which are used for many different products.

Face Powders

	Per Cent
Design:	
Modern	47
Old-Fashioned	47
Nondescript	66
Cartons:	
With	11
Without	89
Wrappings:	
None—Unprotected box	81
Cellulose	19
Windows:	
With	39
Without	61
Type of Box:	
Machine Made	58
Hand-made	42
Full Telescope	80
Shoulder	20
Paper	86
Metal	8
Plastics	6
Shape of Box:	
Round	64
Oval	14
Rectangular	3
Square	3
Octagonal	10
Triangular, etc.	6
Colors:	
Two	17
Three	33
Four	30
More	20
Color Frequency:	
*White	36*
Gray	8
*Silver	30*
*Gold	53*
Yellow	5
Cream	8
Orange	10
Brown	5
Tan	13
*Red	25*
Pink	13
Purple	16
*Blue	20*
*Green	47*
*Black	64*

*Predominating Colors.

Facts From St. Louis

The only aid rendered to the industry's manufacturers by the St. Louis Drug Survey will come from actual facts regarding manufacturers' products. Stripped of all information regarding other merchandise, and of all advice which is open to question, the following represents the results thus far.

Approximately 77 per cent. of all chain drug stores are in cities more than 100,000 population; 14 per cent. in cities of 100,000 to 30,000; 6 per cent. in cities of 30,000 to 10,000; 3 per cent. in places of less than 10,000.

Men enter drug stores in larger numbers than women and account for a larger amount of purchases.

Not more than one of eight customers buy more than one item on a single visit to a drug store.

The cut-price sale does not stimulate sale of other items because a capacity crowd cuts down opportunity of sales people to suggest or persuade customers and time is spent passing out advertised leaders to customers who know what they want.

Less drastic cut is necessary to sell an item in quantities than is necessary to stimulate single sales of the item. Test showed that a druggist sold much more of an item at three for 50 cents than at 14 cents a piece.

Prescription department accounts for 20 per cent. of sales of average drug store.

Average prescription stocks 1,500 items—approximately 29 per cent. of total items in the store.

Average price for prescriptions is 92 cents; non-narcotics averaging 91 cents; narcotics 97 cents; non-narcotics with all official ingredients 84 cents; non-narcotic combinations of official and non-official ingredients 93 cents; non-narcotics consisting of specialties $1.02.

New prescriptions average 95 cents, and refills $1.00 since customers tend to obtain larger quantities in refilling a prescription to be used over a long period.

Over 57 per cent of prescriptions are priced between 75 cents and $1.00; 20 per cent. between 50 cents and 70 cents; 18 per cent between $1.05 and $1.50; 4 per cent. above $2.00.

Of 24,000 prescriptions, 61.29 per cent were liquids; 17.51 per cent. capsules; 9.91 per cent. tablets; 3.8 per cent. ointments; 3.3 per cent. divided powders; 1.5 per cent. bulk powders; 1.3 per cent. effervescent salts; 1 per cent. pills; 1 per cent. suppositories.

Liquid prescription quantities were 27.48 per cent. of 4 ounce size; 21.86 per cent. 3 ounce size; 37.04 per cent 1, 2, and 6 ounce sizes; 13.62 per cent. for other sizes.

The average pharmacist can fill thirty prescriptions a day.

Proprietary medicines account for 11.69 per cent. of drug store sales.

Cosmetics account for 10.57 per cent. of drug store sales.

Sale of proprietaries increases with size of store, but turnover decreases.

Of cod liver oil products, 37.33 per cent of goods sold were cod liver oil in combination with other ingredients, and 17 per cent were Viosterol.

Gross margin for proprietary group was 33 to 37.7 per cent.

Dentifrices sell in ratio of 88.3 per cent. tooth pastes, and 11.7 per cent. tooth powders.

Eighty-eight per cent. of the shaving soaps sold are creams, the remainder being soaps, powders, liquids.

Majority of sales of perfume are of $1.00 sizes.

Articles selling for 50 cents are cut more deeply in price than goods listed at 75 cents, $1.00, or 25 cents, because 50 cents merchandise is the most popular.

Substitution is practiced by some merchants for some merchandise as much as 20 per cent. of the time.

Survey has cost $46,216.45 thus far, and $6,500 will be necessary for completion—a total cost of $52,716.45. With $41,648.50 raised by subscription, committee faces an actual deficit of $4,567.95, and a projected deficit of $11,067.95.

Botanical Quality

By W. J. Stoneback, M.Sc.*

Some of the difficulties encountered in obtaining drugs of U.S.P. quality are given together in this report to the A. D. M. A. with suggested additional specifications which some manufacturers think necessary to improve the situation.

Loss of moisture in crude drugs during storage is a considerable item. With declining prices many botanicals today show an ever increasing amount of moisture. In some items only 1 to 2% may be present, but with bulk of botanicals it is more likely to range between 5% and 20%. Actual moisture appears to fluctuate with considerable certainty according to market price. When a drug is sold from producing districts at an abnormally low figure it is apt to contain a high percentage of moisture. With an advanced price showing a satisfactory promise to the producer a much smaller moisture content is likely. When materials are properly dried an average of about 3% may be expected.

Loss in weight of crude drugs during milling depends upon remaining moisture present after storage (some of which is dissipated by the heat generated in the mills) and upon quantity of powder actually lost. This loss ranges from 1.40% to 5%.

The past twelve months have seen some let down in quality. This is due to economic conditions and often a desire of a producer to insure more profit to offset reductions in price. Following are reported:

Inner bark of Ulmus contains a large percentage of corky bark.

Scoparius often contains large inert stems and occasionally excess of leaves or flowers. Osyris alba is sometimes present as a substitute for official Broom Tops.

Aconite Root occasionally has excess stems connected with roots.

One shipment of Viburnum Prunifolium supposed to be N.F.V. was adulterated with Sassafras Root Bark.

Shipment of Chimaphila consisted entirely of Pyrola species.

Shipment of Ipomoea consisted of tuberous roots of Jalap.

Shipment of uncut Triticum contained excessive soil in center of bales.

Shipment of Conium Seed contained large amount of Cumin Seed.

Difficulty has been experienced securing Apocynum of N.F.V. quality. Samples submitted contain 20% to 60% of Apocynum androsaemifolium or Bitter Root.

Microscopically their histologies are the same with one difference. According to Ballard, groups of stone cells are present in Apocynum a. usually in very outer portion of cortex, while in official Apocynum, if they are present, they will be near sieve tissue or phloem areas. Both contain numerous latex canals.

Considerable Myrrh contained alcohol-extractive content somewhat below 30% specified in U. S. P. Some lots contained large amount of foreign gums or resins and excessive foreign organic matter.

Rhapontic Rhubarb Root has been submitted for entry. There is great need for suitable and reliable official test to demonstrate presence or absence of Rhapontica in genuine Rhubarb Root. Present purity test in U. S. P. is unreliable and use of ultra violet ray lamp has proven of use since. Rhapontica shows decided flouresence while official Rhubarb does not.

Several shipments of Cudbear have been denied entry due to lead and arsenic in more than permissible amounts.

Sub-committee is divided regarding moisture standards. A few think it should not be considered unless said moisture affects activity of a drug. High moisture content might not affect therapeutic quality but must be considered when final cost of production is figured.

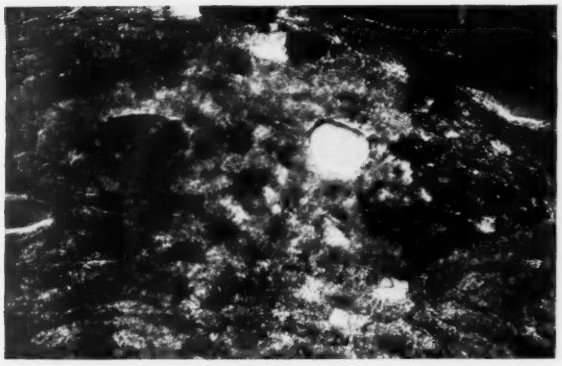
Numerous drugs have been received containing excess moisture. Following will illustrate:

Belladonna Leaves	11%
Belladonna Root	15%
Berberis Root	8%
Ergot	8%-12%
Gentian Root	12%-19%
" "	22%-31%
Golden Seal Root	6%- 8%-9%

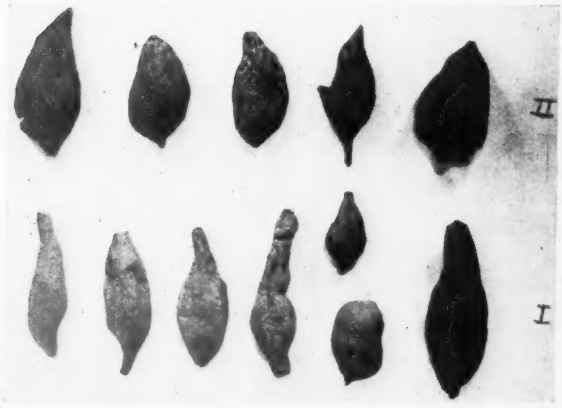
*Pharmacognocist, Sharp & Dohme.

...ol of Pharmacy
University of Md

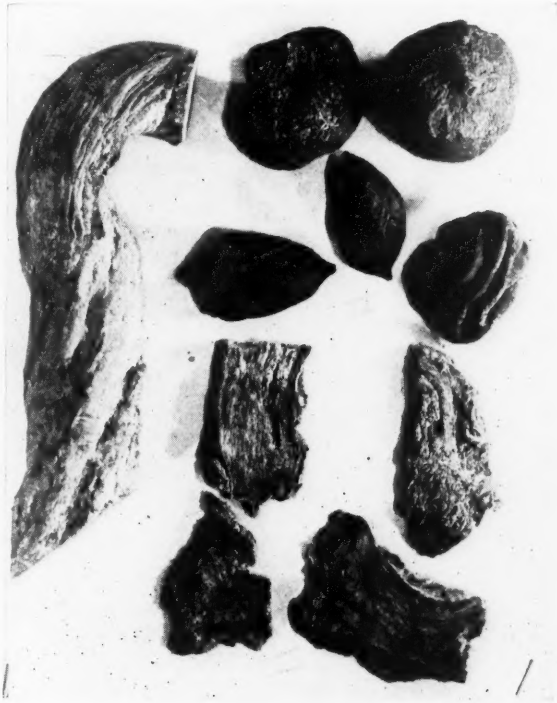
T. S. of outer portion of cortex, official Apocynum, showing filled and empty latex canals.



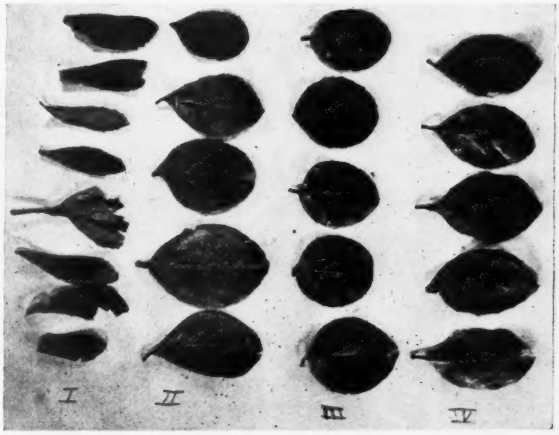
T. S. of outer portion of cortex, Apocynum Androsaemifolium, showing latex canals and toward upper right, group of stone cells.



Row 1 shows peony tubers; Row 2 shows jalap tubers. Although there is a very close resemblance, jalap shows longitudinal wrinkles.



The long piece at the left is Levant Scammony; the group of five in the upper right-hand corner is Jalap; the group of four in the lower right-hand corner is Mexican Scammony.



Row 1 shows Chimaphila and Rows 2-4, Pyrola species.

Papain	12%-14%
Sarsaparilla Mex.	16%
Senega Root	8%
Stillingia Root	16%
Stramonium Leaves	10%-15%
Tragacanth	5%-10%
Karaya Gum	10%-14%

In order to check a growing tendency of gatherers and shippers to market imperfectly dried drugs it will no doubt be advisable to adopt moisture limits sooner or later for a number of official botanicals.

Study should be given to U. S. P. tests under *Asafoetida* for detection of foreign gums in that it appears that ferric chloride test and hydrochloric acid test do not always give consistent results.

Also U. S. P. test for rosin in *Benzoin* is apt to be misleading. Study should be made to determine if test should be modified.

The water soluble requirement for Ginger is high as many lots, especially of African just barely pass. A minimum of 10% water soluble extract instead of present 12% requirement is recommended as more satisfactory.

Committee Report to A. D. M. A.

Industry's Books

The Road to Good Advertising, by Kenneth Collins, 217 pages, Greenberg, New York. $2.50 net.

Here is a book which should be carefully studied—mark the word—by every manufacturer and advertising man desiring to get the most out of the advertising dollar. In forceful, pithy language, Mr. Collins has blasted many advertising dogmas and has shown the road to good advertising. He shows how to plan campaigns, plan advertising, write convincing copy, judge pulling power. In judging advertising Mr. Collins recommends the following formula: Will it bring volume? Will it add prestige? Will it build a price line? "A pretty good rule for all of us who write advertising," says Mr. Collins, "is to spend more time in retail stores, standing on the selling floors and watching the things customers do with the merchandise and listening to the questions they ask. All advertising is being addressed to people who buy goods and not to people who have them for sale." Mr. Collins says some pretty harsh things about advertisers who misrepresent their wares and about advertising men who waste money in bizarre copy, meaningless shibboleths and glowing superlatives. Mr. Collins shows how to build a business with advertising. He should know. He has done it; and in writing this book, he has shown how to get first rate national advertising for nothing. The book is one of the best works on advertising which has come to our attention.

Growth and Development of the Child, Part III, Nutrition. A Publication of The White House Conference, 532 pages, Century Co., New York. $4.00 net.

This book contains both an analysis of the components of diet an account of the intricate chemistry of the body. The topics of discussion and range from an appraisal of the national food supply to the feeding habits of children and the psychological facts in nutrition. Certain portions of the book dealing with vitamin deficiencies and child nutrition are of undoubted importance to drug manufacturers, particularly to those with deficiency products and products designed to supplement infant feeding.

Editor's Correspondence

Cost of Medical Care

Editor, The Drug and Cosmetic Industry,
Sir:

I have just read your editorial entitled "Only Human" and the one entitled "Medical Care" and your article entitled "Drug Treatment Cost," all of which appeared in the April 1932 issue of your Journal.

I do not wish to comment on the conclusions you have drawn or the opinions you express, as I have the feeling that if you should read the complete pharmacy report which appears under the title "The Costs of Medicines" by Dr. Rorem and myself, you may get a different idea of our treatment of the subject. I have asked the Chicago University Press to send you a review copy of the book.

At this time, however, I want to take exception to your reference to the American Pharmaceutical Association in connection with the editorial entitled "Only Human." I am not Vice-President of the American Pharmaceutical Association, and whatever conclusions Dr. Rorem and I may have drawn from our study of the pharmaceutical industry and the profession of pharmacy should not be attributed to the American Pharmaceutical Association, which had no more to do with the study than you had.

I happen to be President of the New York Branch of the American Pharmaceutical Association and Vice-President of the National Association of Boards of Pharmacy, but my work for the Committee on the Costs of Medical Care was done as a member of the Research Staff of that Committee and not in my capacity as an official of any organization.

In justice to the American Pharmaceutical Association I trust you will publish the necessary correction.

Very truly yours,

Robert P. Fischelis.

Trenton, N. J.,
May 10, 1932.

Editor's Note: It was not our intention to imply that the American Pharmaceutical Association officially had any connection with the report, but merely to indicate that Mr. Fischelis, who is one of the authors, held an important office in organized Professional Pharmacy and therefore should be distinctly allied with Pharmacy rather than with Medicine. The statement that Mr. Fischelis was vice-president of the A. Ph. A. appeared in the press releases on the report. However, the two offices which Mr. Fischelis does hold prove the point just as well.

The Copeland Bill

Editor, The Drug and Cosmetic Industry,
Sir:

It is with a genuine sense of appreciation that I have read your editorial on the Copeland bill, in April "*The Drug and Cosmetic Industry*". You hit the nail exactly on the head in naming this amendment a "primary" step in such legislation. He who runs can see that the first law of the kind is one to outlaw unfair price competition and to make fair price competition the legal rule of trade. Perhaps this law is not enough. But certainly it is the first step. And one cannot well take the second step, until after the first. You have performed a fine constructive service of sound trade opinion by this editorial, and I congratulate you upon it.

Cordially yours,

Charles Wesley Dunn.

Lecithin

The properties of lecithin are of real interest to drug and cosmetic manufacturers since it seems that this material is about to assume a place of ever-increasing importance as a raw material in this industry now that a new source has been made available at low prices.

By Joseph Eichberg

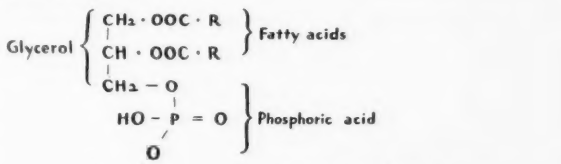
LECITHIN is a fat-like substance of organic origin containing nitrogen and phosphorous and occurring universally throughout nature in all plant and animal organisms as a vital constituent of the living cell. Those groups of cells which are of greatest functional importance such as brain, lungs, liver, muscles, spinal cord, etc. contain especially rich deposits of lecithin; while relatively considerable quantities occur in seeds, eggs and milk and associated with fats essential for the growth of the embryo or young organism.

Until recently egg yolk and brain substance were the principal sources for lecithin and the cost limited its use to high priced pharmaceuticals. During the past few years a vegetable lecithin produced from the soy bean has made available an adequate supply of good quality material which is now being extensively used in the preparation of many food and technical products.

Applied to tissue creams or nourishing creams lecithin contributes a twofold benefit: improvement, first, in physical properties, and, second, in physiological value. As little as 1 to 2% may be incorporated with marked efficacy. The lecithin (it is fat soluble) lowers the surface or interfacial tension of the oils and fats present, thereby greatly increasing their penetrating and softening effect and heightening absorption. Lecithin has also been shown to possess anti-oxidant properties which counteract the tendency of certain fats to become rancid. While being closely related to the neutral fats—triglycerides—lecithin exhibits an affinity for moisture and this additional colloidal property as well as the effect on surface tension promotes a more stable physical condition including uniform dispersion of finely divided moisture droplets or solids.

Where emphasis is placed on nutritive and stimulating or rejuvenating considerations, the character and occurrence of lecithin make it a particularly desirable ingredient. Not only is lecithin an indispensable part of every living cell but its activities are intimately concerned with cell-metabolism and the transport of fats in the system. Lecithin contains an impressive percentage of phosphorous in readily assimiliable organic form and may be regarded medicinally as a concentrated nerve food and reconstituent. In recent years careful study has been made of the part played by lecithin in the life of the cell as well as in the entire organism and some illuminating results obtained. MacLean ("Lecithin and Allied Substances: The Lipins," Second Edition 1927) refers to the work of A. Mayer indicating that lecithin and related substances form an essential part of the living cell and are not utilized as oxidizable fuel for energy production for even after complete starvation the "proportion of phosphorous to fatty acids was found even higher than required by the accepted constitution of lecithin and cephalin."

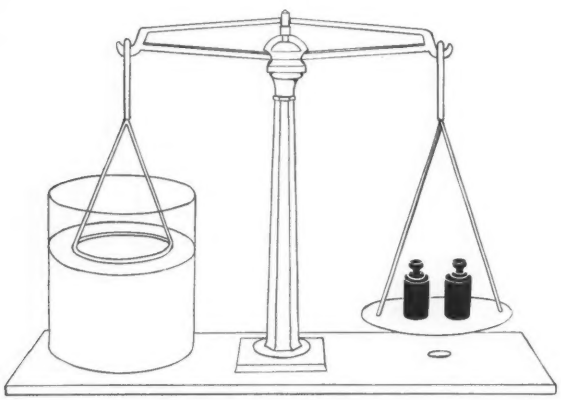
Lecithin is a natural product and may be alluded to broadly as a "phosphorized fat." Its name is derived from the Greek, meaning eggyolk since eggyolk contains 7-10% lecithin. As a group name "lipoid" has been employed to include ether-soluble extracts of tissues which would take in lecithin, cephalin and a number of other substances, while "lipin" is somewhat more definitive. Lecithin may also be classed as a phospholipin or phosphatide. The formula for lecithin is as follows:

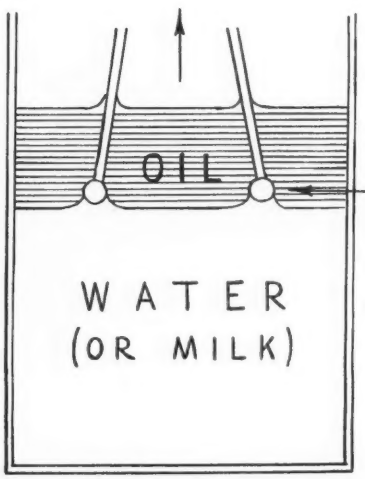


The similarity to the ordinary fats is apparent, the difference residing in substitution of the third fatty acid radicle by phosphoric acid and the base choline. From the researches of P. A. Levene (see Journal of Biological Chemistry, Vol. 62, p. 759 "Lecithin and Cephalin of Soy Bean") it appears that lecithin of vegetable origin possesses in general properties closely

analagous to those of animal lecithin from which it differs but little and MacLean (see above) states, "So far as it is possible to judge from the available literature, there is a certain amount of evidence pointing to the conclusion that no essential difference exists between the lipins of the two kingdoms." Experiments on rabbits using lecithin from soy bean and from hog brains further confirm this conclusion.

While the lecithin present in tissue creams exerts physical effects of its own, the fact that it at the same time enhances the cosmetic potency of the other fatty ingredients, causing a more perfect blending and higher degree of penetration and absorption, is a consideration of the utmost significance. Measurements of the action of lecithin on surface or interfacial tension were made by the loop method which records the pull necessary to remove a small platinum wire loop from water to oil or other media. If the tension between the two liquids or between the liquid and air is high, more force or pull is required. As illustrated in the following diagram, a wire loop is suspended on a very sensitive chainomatic balance and the weight needed to pull the platinum loop from the water into the fat is determined. Milk as well as water was used in this series of tests





Arrow indicates cross-section of wire of platinum loop

and these weights in milligrams were found necessary to equalize the interfacial tension:

Surfaces in contact	*Small loop*	*Large loop*
Water / oil	80	233
Milk / oil	48	135
Milk / oil & lecithin	3	15

These figures show that substitution of milk for water reduced the interfacial tension 40% and 42% and that addition of 1% of vegetable lecithin to the oil further reduced interfacial tension approx. 94% and 86% or a total of 96% and 94% for the small loop and large loop respectively as compared to the water / oil surfaces.

In considering the structure of the cell J. B. Leathes ("The Fats, 1925) makes a number of very interesting and suggestive observations: "In other types of animal cells for which figures exist, compounds of fatty acids, including lecithin, form from four to six or more times as large a proportion of the cell substance as they do in the red blood corpuscle, so that in all cases there would be much more of these substances than would be required for a bimolecular external film . . . . . It thus becomes easier to suppose that they are not distributed at random through the protoplasm, but here, too, on a plan, forming the continuous phase, a multiocular spongework of bimolecular films. . . . . Another line of study which is being followed and may have bearing on the formation of such films in the substance of cells, is that of the movements executed by lecithin in contact with water. . . . . A streak of lecithin on a glass slide under a drop of water projects from its surface budding protrusions in a way which has long been known but remarkably little studied." In 1902 W. Koch had likewise expressed the belief that the protrusion of such filaments (myelins) might help explain some of the characteristics of living protoplasm ("The Lecithans: Their Function in the Life of the Cell," Univ. of Chicago Press, The Decennial Publications, 1902).

Notable work has been done by D. T. MacDougal who devised an artificial cell with which certain properties of natural living cells could be studied and showed that lecithin and also cholesterol are intimately concerned with the admission of food into the cell. ("Substances Regulating the Passage of Material into and out of Plant Cells: The Lipoids," Proceedings of the American Philosophical Society, Vol. LXVII, 1928, No. 1, p. 33. Also see "Probable Action of the Lipoids in Growth," same Vol. LXI, 1922). Several passages may be quoted. "It may be well to recall that in living vacuolated cells, the lipoids are taken to accumulate in association with proteins and carbohydrates in a peripheral layer of the plasmatic mass and to extend in irregular strands into the plasma. A slightly different complex is found in the nucleus. In addition, the view that the independent middle lamella originally laid down between two separating cells, is a lipoidal layer is now gaining additional support. This layer remains essentially lipoidal, although many inclusions may be

added during the life of the cell. . . . . It is evident that an extension of studies of the action of lipoid solutions in the presence of other bio-colloids promises much to the physiologist whether he be concerned in oxidations in animal tissues, the derivation of platelets in the blood, or in the action of plant cells. It may be mentioned in this connection, that the fact that lecithin solutions absorb much more carbon dioxide than a similar volume of distilled water is a matter of great importance in the intake and reduction of this gas by green leaves by action of chlorophyll bodies. . . . . The theomogenic activity of the lipoids has been examined by Sajous ("Thermogenesis as the Fundamental Function of the Adrenal Medulla and Cortex," Endocrinology, 1925, Vol. IX, pp. 441-55 also "The Relation of the Endocrine Organs to High Blood Pressure: A New Interpretation," American Medecine, 1923, Vol. XVIII, pp. 393-98. C. E. de M. Sajous) in animals and their participation in the respiratory processes of the plant has been studied by Palladin. The recent contributions of Hansteen-Cranner as to the occurrence of lipoids in cells, have made possible a new conception of the part played by these substances in permeability. Results supporting the theory of lipoidal control of the passage of electrolytes and organic material into and out of the cell have been contributed by Boas and myself, using living material. The study of lecithin-cholesterol suspensions by Rona and Deutsch and the use of such material in artificial cells have shown that when included in layers of protein pentosan jellies, the passage of ions is controlled in a manner much the same as in the living cell."

The foregoing references to or excerpts from articles by some of the greatest authorities on the subject are indicative of a scientific literature relating to lecithin which has steadily grown to its present comprehensiveness, although much remains to be discovered or clarified and where research involves study of life processes months and years of painstaking investigation are required to substantiate or supersede existing theories or contribute new facts. But already sufficient evidence is available to demonstrate conclusively the vital importance of lecithin to the life and functioning of the cell and of the entire organism. Its physical effects and the benefits to be derived therefrom when lecithin is used in tissue creams are susceptible to ready proof by the manufacturer: practical results from actual use of cream containing from ½ of 1% to 2% or more lecithin will realize the predictions which can be made in the laboratory from a consideration of improved physical properties.

Vegetable lecithin enables the manufacturer to utilize this valuable ingredient without making costs unduly high and in the form supplied can be easily incorporated with the other ingredients. It is practically neutral in taste and odor and possesses almost indefinite keeping properties, in fact it will enhance the stability of the cream as a whole, definitely inhibiting oxidation or hydrolysis of other fats.

Packaging in Glass

By Karl L. Ford*

In emphasizing the fact that glass can be formed in almost any conceivable shape such diversity of design is not recommended. If one realizes at the start before the design is accepted that the container must be filled, capped, labeled and packed for shipment much additional expense can be eliminated. The user should also bear in mind that not only an attractive closure, but an efficient closure both in application and tightness of seal is essential.

While not condemning modern shapes a few words of caution and advice might not be wasted in view of the numerous stories of grief which have drifted in my direction and advice requested.

The manufacturers should realize that shape is an item in the expense of the package. A standard shape means lower cost for the article from the glass manufacturer and the use of standard equipment in all plant operations. A new label and a new closure, both considered in designing the label, can achieve remarkable improvements in the final package. In the present trend toward modernization of packages such a procedure cannot be discarded without much consideration. By this method of modernizing a package the cost of shape remains unchanged.

When the user modifies his container design or adopts an entirely new design it may modify his entire operations. These modifications in handling operations frequently are expensive and have been known to cause such difficulties that further modifications were necessary at additional expense to make it possible to use automatic lines.

A new shape may require modifications in conveyors, feed arrangement and possibly factory adjustments of filling machines. The original filling tubes may be of such size that much closer alignment is required to prevent glass breakage. The changes in filling machines may be necessary at additional expense. Labeling machines may require even greater modifications.

In the plant where operations are much more automatic these same changes and many additional ones are necessary in order to adapt conveyors and other feed devices to the new shape. All of these changes represent cost of the new shape.

While the ultimate aim of a modern shape is sales it should not be adopted without due consideration to production costs. The manufacturer considering a new shape should consider first the possibilities of standard shapes in new dress—and if such does not serve the purpose—modern shapes not only from sales viewpoint but as they effect every step in production.

In this study the user can obtain the services of the glass manufacturers and the manufacturers of all equipment in the plant through each step of their operations.

*Glass Container Assn.

THE USE of

The carton has a very distinct place in packaging drugs and cosmetics. The proper use of the carton and its advantages when put to this use are indicated here.

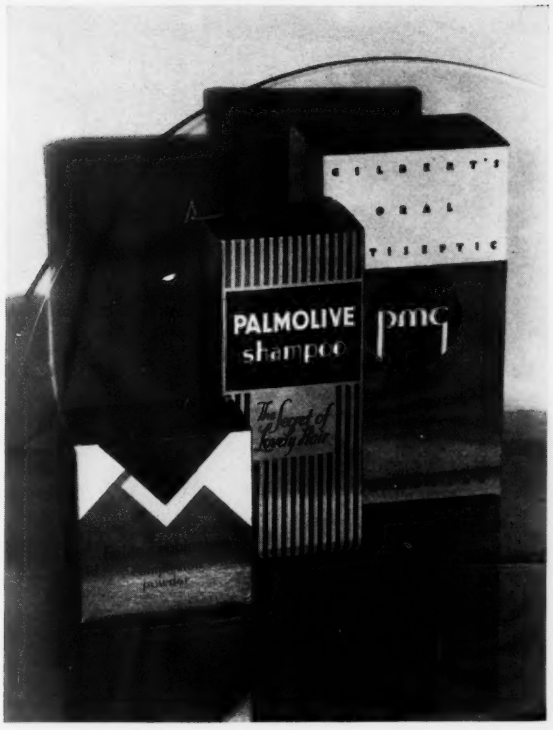
OF THE many packaging materials intended to protect the container, cartons still are one of the most satisfactory from a machine production point of view, because they can be applied so rapidly by hand or by machine. Indeed, certain wrappings, transparent cellulose wrappings especially, cannot be applied mechanically to bottles and other objects of shapes deviating from square, oblong or cylindrical. And, besides, the carton gives adequate protection always. It does not dry out and crack and peel off like the skin of an onion. It stays put. But quite apart from its function as a protective and display device, the carton serves as an excellent vehicle for circulars and samples.

For a time it seemed as though cartons would be made obsolete by transparent cellulose wrapping materials. It seemed as though every new package was coming out in the nude protected only by a thin transparent film. But how far did this tendency *actually* go? In general not very far, excepting only in the case of toilet lotions. For this group of the industry's products, cartons have been pretty generally dropped in favor of utter nudity or else transparent wrappings. A survey of the packaging practices of the best known firms in the trade conducted by THE DRUG AND COSMETIC INDUSTRY reveals some very interesting facts in regard to cartons. Of thirty-five of the best known toilet creams 23 were protected by cartons, three were protected by transparent cellulose and nine were unprotected in any way. This gives the field to cartons by 65.5%. Lotions showed the reverse tendency. Of thirty-five leading lotions 27 were without cartons, only six had cartons and two had half cartons. Of the 27 packages without cartons, 22 had no protective covering of any kind, four were wrapped in transparent cellulose and one in glassine. Of the total number, only 17% had cartons. Hair preparations were protected with cartons to the extent of 62½%, and shampoos 46%.

Quite a different picture is presented by drug products; this category showing the following percentages using cartons: antiseptics and mouthwashes, 68½%; cough syrups, 68½%; tonics, 40%; laxatives, 65%; liniments, 89%; ethical specialties and general medicines, 61%. The average for this group showed a carton coverage of 64%, the remainder of the packages being protected mainly by glassine.

One can appreciate why cartons have been supplanted by transparent wrappings to such a large extent in the food industry where the appeal is to the sense of taste and where the several products are self-identifying and appetizing. Here the aim of packaging is to arouse desire by appealing to the stomach. In the drug and cosmetic industry the situation is quite different. One cannot imagine a prospective customer being drawn irresistibly to a bottle of castor oil, or cough syrup or liniment. Besides, many drug products are entirely unfamiliar and are by no means self identifying. People buy drug products, not haphazardly, but because they need them. Few people can be persuaded to buy cough syrups when they have no colds, or liniments when they have no pain, or tonics

the CARTON



when they are not run down, simply because they are attracted by the appearance of the merchandise. Why worry then about complete visibility? Why abandon a device which gives an opportunity to tell not only the story of the specific product, but of the other products of the company—and to distribute samples as well?

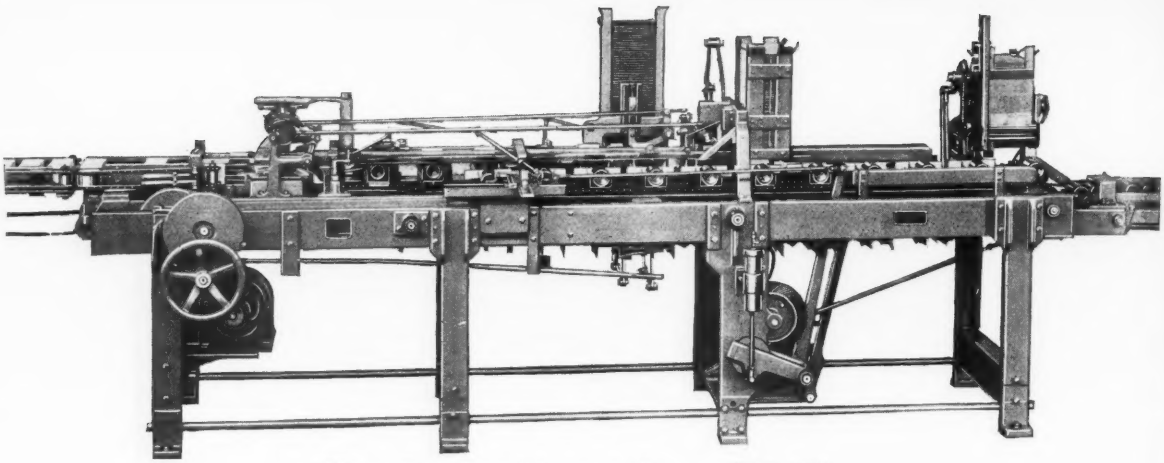
This is not said with the intention of minimizing the enormous value of beautiful design in packaging drug products including ethicals. The distinctively designed package is easier to visualize and to remember, more satisfying to use. It stands out on shelves and counters and always preaches a dynamic message—one that is likely to be remembered when the consumer again has need of the product. Consider for instance the distinctive appearance of Rem and Pertusson. You have no difficulty in visualizing these packages. That's why the advertising of these companies sponsoring them is so productive of sales. People do remember the advertising message; they do remember the packages. Can you form an equally distinct mental image of Castoria? Sloan's Liniment? Dr. King's New Discovery? Barker's Liniment? These are well-known products. But isn't it true that they form in your mind an indistinct jumble of black and white just as they do on the druggist's shelves? Try to describe one of them in detail. Then do the same thing with Rem. Which of your descriptions is most accurate—and why?

Quite aside from the questions of identification and display, the consumer derives more pleasure and satisfaction from using a product in an attractive package than from an unattractive one. This physiological truth plays a vital part in medicine as any doctor will testify.

We have said before and we reiterate now, that most of the distinction, most of the self-identifying power of the package is inherent in its printed matter—its label and its carton. Remove labels and cartons from a group of products and then attempt to identify them by means of their containers or their closures. Even though each container is of a special design you will not get very far. That's why packages are decorated with labels and finished with cartons, but it seems a pity to allow the label to do all the work. The carton is so much bigger, so much more spectacular.

You've *got* to have the container; you've *got* to have the closure; you've *got* to have the label; but you don't *have* to have the carton. You can eliminate it but when you do so a golden advertising opportunity is eliminated also.

Someone will object that all this is probably true with reference to drug products, but is not true with reference to toilet preparations, because of the fallacy that cartons do not lend themselves to artistic treatment. In other words cartons are said to hide the beauty of the package instead of revealing it. Undoubtedly this belief had some influence in the abandonment of cartons for lotions. While conceding the probability that it may be very difficult at this stage of progress in design to create a carton equal esthetically to a set up box, or let us say, a lustrous glass

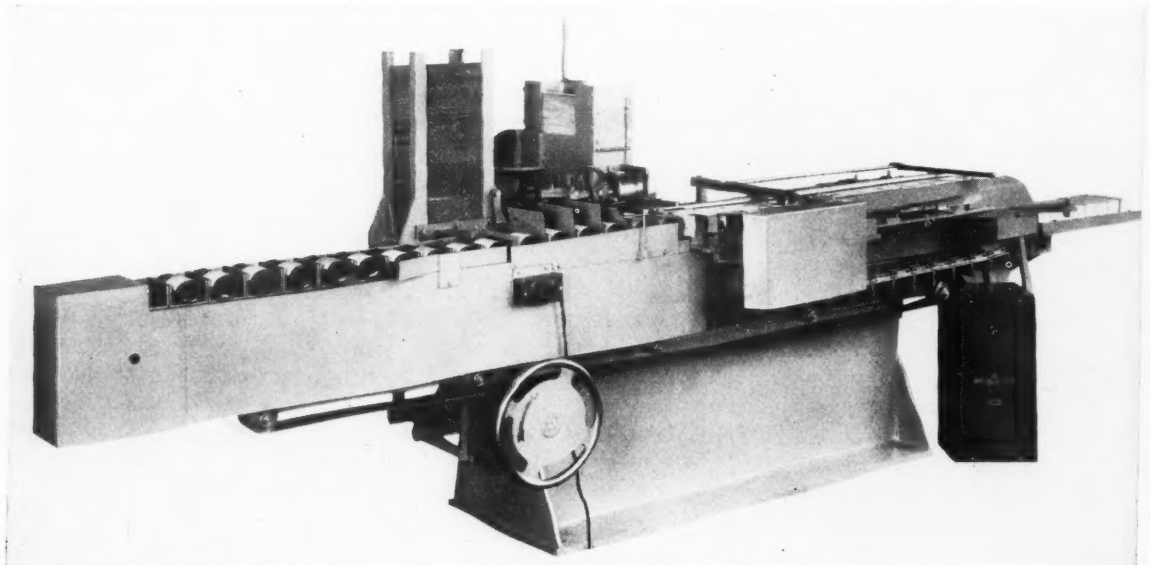


This machine is used to carton 12-ounce "S.T. 37"

container with a metal label and a bright colored cap, yet, we must cite the fact cartons have not had the attention other packaging materials, such as labels, for instance, have had. In the hands of a capable artist the carton can be a revelation. Examine the accompanying illustration of Gilbert's Oral Antiseptic. This package in blue and white shows what a real artist can do with a carton. Study Liquid Arvon. Here is a very lovely job in two tones of green and yellow. In both of these cases when the cartons are compared with the containers which they hold, the cartons must be awarded the palm. These cartons illustrate an important rule, namely, in designing a carton make it simple, put copy on both sides and the back, and do not use more than three colors. The reason for this is that a multiplicity of colors and an involved design introduce too many elements to insure unity of impression, and unity of impression is that which draws attention and impresses memory.

It must be admitted that carton design has suffered in many cases by reason of the fact that package designs are made up piece-meal. Desiring to pinch a penny the manufacturer will demand that the package be designed by the packaging material suppliers. The container is designed by one, the cap, perhaps, by another, the labels by a third and the carton by a fourth. No one of them knows the whole story, and even if he did, it is only in rare instances that any one of them will be familiar with the problems of all the others. But when the job of creating the package is given to a competent artist, like the one who created the Gilbert package for instance, a unity of effect is achieved: all the several parts of the package: container, closure, labels and cartons are harmonized with a definitely unified concept. Then, when you take this unified concept, (as Hoffman LaRoche did with Tonikum, an ethical specialty),

(*Continued on page 494*)



Cartoning machine shown wrapping Upjohn's "Myeladol"

Isopropyl Alcohol

WHILE isopropyl alcohol, which has been known since 1855, has been commercially available for the last ten years, and has at various times been investigated for possible uses in the manufacture of drugs and cosmetics, it is not until comparatively recent that improved quality and lower cost have intensified the interest in its use. Naturally, the increasing stringency of the Prohibition Department regarding permits for various formulae of denatured alcohol has added to the willingness of certain alcohol consumers to investigate the use of isopropyl alcohol.

Produced solely as a by-product of the petroleum and gas industry, this alcohol has the formula $CH_3CH(OH)$, and is available in three grades: Technical 91%; Refined 91%; Refined 98%.

The molecular weight of the product is 60.06; melting point -85.8°C.; boiling point 82.4°C.

With reference to the pharmacology of isopropyl alcohol, it might be said that this phase has been studied by Dr. David I. Macht, of Johns Hopkins University, Professor R. Burton-Opitz, of Columbia University and Drs. J. Munch and E. W. Schwartze, formerly of the Food and Drug Administration. Dr. Macht found that when injected intravenously into cats, isopropyl alcohol is twice as toxic as ethyl alcohol, four-fifths as toxic as normal propyl alcohol, and one-fourth as toxic as benzyl alcohol.

Rats exposed to air saturated with fumes of various alcohols were killed in one or two days by methyl alcohol, while ethyl and isopropyl alcohol, during several days exposure, caused no apparent injury. No blindness or defects in vision resulted from the inhalation of isopropyl vapors, in contrast to the results of methyl alcohol.

Dr. Macht also found that isopropyl alcohol, administered by stomach tube to cats in doses of 5 to 5½cc. per kg. of body weight, is an effective anesthetic, showing less depression of circulation than that caused by chlorinated hypnotics.

Professor Burton-Opitz perfumed a series of varied experiments including the following:

Fifty cc. of isopropyl alcohol was administered orally to a dog weighing 6.5 kg. Symptoms of serious muscular incoordination and some gastric disturbance resulted. The dog could walk normally the next day, and completely recovered the third day. Similar results followed administration of the alcohol by stomach tube in amounts of about 10 cc. per kilo body weight.

Isopropyl alcohol applied to open wounds in concentrations up to 50% allowed healing by what appeared to be normal granulation. The alcohol possessed healing properties similar to those of ethyl alcohol, as far as this can be tested on dogs. Small quantities of isopropyl and ethyl alcohols, in concentrations varying from 10 to 100%, were injected into the jugular vein and instilled in the eye, respectively. In both cases, the effect of isopropyl alcohol was approximately the same as that of ethyl alcohol.

Drs. J. C. Munch and E. W. Schwartze, after reviewing the whole field of the pharmacology of the aliphatic alcohols, performed a series of carefully controlled experiments on the effect of oral administration of various alcohols to rabbits. They found the minimum narcotic dose of isopropyl alcohol to be 2.85 cc. per kg. body weight, as against 5.5 cc. for ethyl alcohol, while the certain lethal dose was 10.0 cc. per kg. for isopropyl alcohol, against 12.5 cc. for ethyl alcohol.

A synopsis of all available data on the pharmacology of isopropyl alcohol prior to 1923 was given by D. H. Grant in the "Journal of Laboratory and Clinical Medicine." His summary is as follows:

"The toxicity of isopropyl alcohol is not less than that of ethyl alcohol and not more than twice that of ethyl alcohol. These limits include all the reliable data at hand, by six different observers, using a total of nine different methods, on one or another of six different animals.

"The effect of isopropyl alcohol upon the human skin is similar to that of ethyl alcohol. Different observers do not agree on the effect of large doses of isopropyl alcohol orally ingested by human subjects. Loeffl's investigators took 16 cc. daily for three days without discomfort, while Thompson's subjects suffered marked, though not dangerous, depression from a single dose of 22.8 cc. All are agreed, however, upon the absence of any exhilarating effect similar to that of ethyl alcohol, and upon the somewhat unpleasant taste of isopropyl alcohol.

"It may, therefore, be safely said that isopropyl alcohol is not potable.

"In view of the foregoing data, no reasonable objection can be made to the use of isopropyl alcohol as a lotion or vehicle for external medication, nor as a constituent of compounds for oral or nasal medication, such as practically all mouth washes, gargles, dentifrices,

etc., which do not involve the probability of swallowing more than a few cubic centimeters, at most of the alcohol."

Isopropyl alcohol finds use in drug manufacturing as an antiseptic. Excellent results in this direction have been shown with use of the yellow pus coccus, the colon bacillus, anthrax bacillus, bacillus subtilis, and the acetic acid bacteria. As an antiseptic it is more effective as in dilution than when used full strength. The most effective concentrations are from 30 to 50 per cent.

As a solvent for medicinal preparations for external application, isopropyl alcohol is extremely satisfactory, non-official tinctures or spirits being made with its use such as: Benzoin, tolu, larkspur, mustard, cocculus indicus, rosemary, witch hazel, etc. It is also useful in compounding liniments, collodions, purification of oxgall and extraction of lecithin, prolamines, gaduol, etc. Addition of 12 per cent. of isopropyl alcohol to phenol causes liquefaction, and the resulting liquified phenol will mix easily with both aqueous and oily liquids. Notwithstanding its slightly unpleasant taste, isopropyl alcohol is applicable to certain types of antiseptic solutions for oral and nasal use. Solutions for medicating surgical dressings can also be made with it.

A concentrated mouth wash which is used in the ratio of three drops to one-third glass of water contains: 50 cc. of essential oils (peppermint, wintergreen, cinnamon, anise, eucalyptus), 5 gm. of salol, 5 gm. of saccharin, 50 gm. of castile soap, 100 cc. of tincture of myrrh (made with isopropyl alcohol), and 60 per cent. isopropyl alcohol to make one liter.

An astringent mouth wash which should be used full strength is made as follows: 2 gm. of zinc chloride, 3 gm. of essential oils (as above), 0.3 of saccharin, 50 cc. of isopropyl alcohol, and distilled water to make one liter.

A good liniment for sprains is made with the following: 2 gm. of oleoresin capsicum, 30 cc. of methyl salicylate, 100 cc. of turpentine, 30 gm. of gum camphor, and 91 per cent. isopropyl alcohol to make one liter.

In cosmetics isopropyl alcohol finds use as a solvent medium or preservative in perfumes, toilet waters, theatre sprays, bay rum, hair tonics, hair cleansers, dandruff cures, bandolines, wave lotions and brilliantines, shampoo liquids, liquid rouge, hand lotions, shaving lotions, astringent lotions, nail polishes, and polish removers, tooth pastes, liquid dentifrices, smelling salts, bath perfumes, bath salts, hair dyes, and many other preparations. In fact some of these uses have been covered by patents, such as: U. S. Patents 1,582,912 and 1,700,035, specifying isopropyl alcohol as an ingredient of witch hazel extract and the like, and in a composition for cleansing the hair and scalp, respectively.

Complete investigation of the pharmacology of isopropyl alcohol has shown, as already pointed out, that it may readily be used in all kinds of cosmetics, lotions, medicines, etc. designed solely for external use.

Poucher in his work on "Perfumes, Cosmetics and Soaps," says:

"Freshly prepared isopropyl alcohol has a slight odor, but it is very little more noticeable than that of new rectified spirit. On evaporation it leaves no more odor than the best rectified spirit, and, in common with ethyl alcohol, it improves with age . . . ."

"The consumers of toilet scents do not know the very faint odor of isopropyl alcohol, but they would be able to detect the difference between a perfume made with it and another made from the same formula, but using rectified ethyl alcohol as the solvent. This would, however, only be possible when smelling the perfume in the bottle, or bulk, for when the scent has partially evaporated, and either of the alcohols has disappeared, it is not possible to distinguish between the two preparations."

The following discussion of the use of isopropyl alcohol in perfumery is quoted from Poucher, Vol. 1, page 192:

"The peculiar fragrance of this alcohol is difficult to cover if the perfume ingredients are added to it without previous preparation. For pleasing results it must be treated very much on the lines of *prefixation* outlined in Volume II of this work, and in addition small quantities of esters having the type of odor the particular perfume being prepared, should be added and the solvent matured for as long as possible. The fixator may be chosen from the list given in Volume II, and the ester from the following:

Acacia—isobutyl phenylacetate, methyl anthranilate, amyl cinnamate, citronellyl propionate.

Carnation—amyl salicylate, geranyl formate, terpinyl acetate, ethyl benzoate.

Cologne—linalyl acetate, ethyl anthranilate, isobutyl cinnamate.

Hawthorn—benzyl acetate, rhodinyl butyrate, phenyl ethyl acetate.

Heliotrope—benzyl cinnamate, amyl formate, terpinyl propionate.

Honeysuckle—p-cresyl phenylacetate, methyl anthranilate.

Hyacinth—amyl valerianate, benzyl propionate, styrolene acetate.

Jasmin—benzyl formate, octyl acetate, methyl anthranilate.

Lavender—terpinyl propionate, phenyl ethyl butyrate.

Lilac—n-butyl phenylacetate, benzyl acetate, terpinyl formate.

Muguet—ethyl phenylacetate, geranyl formate.

Narcissus—phenylglycol acetate, p-cresyl phenylacetate, ethyl anthranilate.

Rose—geranyl butyrate, citronellyl acetate.

Sweet Pea—isobutyl phenylacetate, rhodinyl formate.

Trefle—isobutyl salicylate, linalyl acetate.

Violet—linalyl acetate, amyl laurinate, ethyl myristinate.

Wallflower—ethyl anthranilate, methyl p-cresol.

"After maturing, the perfume may be compounded with terpeneless oils and synthetics, and for cheap products, diluted with water to 60-30% strength. As a solvent for essential oils, 40% isopropyl alcohol is about equal to 80% ethyl alcohol. As a gum-resin solvent, this alcohol is useful, and may be successfully employed in preparing such resin-odours as olibanum, galbanum, and ginger, but for delicate odourous bodies such as benzoin and cistus it is not recommended."

A precaution in the storing of isopropyl alcohol for use in perfumery, is that it should be kept in glass carboys or glass lined tanks, so that it cannot possibly be contaminated by long contact with metal.

The following formulas for various types of perfumes are given merely as suggestions for those wishing to compound them with isopropyl alcohol.

Eau de Cologne

On account of its better solvent power for most perfume materials, isopropyl alcohol is well adapted to the manufacture of Eau de Cologne and other toilet waters, because they are commonly made with dilute alcohol. Very satisfactory compositions may be made by using isopropyl alcohol of 40 to 50% strength. The two formulas below are given by Poucher (loc. cit II, 262). It will be noticed that these formulas are for a low-priced Eau de Cologne.

Eau de Cologne H

Citral	1	cc.
Linalyl acetate	9	cc.
Terpinyl acetate	2	cc.
Ethyl anthranilate	1	cc.
Rhodinol	5	cc.
Isoeugenol	1	cc.
Neroli (artificial)	10	cc.
Menthol	0.5	gm.
Musk ketone	1.5	gm.
Isopropyl alcohol	500	cc.
Distilled water, to make	1000	cc.

Eau de Cologne K

Oil bergamot (terpeneless)	6	cc.
Citral (from lemon oil)	1	cc.
Oil rosemary (terpeneless)	0.5	cc.
Oil petitgrain (terpeneless)	10.	cc.
Geranyl formate	2	cc.
Naphthol ethyl ether	0.5	gm.
Isopropyl alcohol	400	cc.
Distilled water, to make	1000	cc.

"Powder the musk, etc., and shake with the oils until dissolved. Mix with the alcohol, then gradually add the water, stirring all the time. Add 10 g. of vetivert roots and shake occasionally. Mature one month and then filter."

The following formula for a cheap lavender water is also taken from Poucher (II, 266) but the odor obtained with this composition is not a very good imitation of the lavender odor.

Terpinyl propionate	12	cc.
Benzyl acetate	2	cc.
Phenyl ethyl alcohol	2.5	cc.
Oil bergamot (terpeneless)	3	cc.
Vanillin	0.5	gm.
Isopropyl alcohol	500	cc.
Distilled water, to make	1000	cc.

In compounding perfumes for use with isopropyl alcohol, special attention should be given to providing adequate "first effect" by the use of volatile or diffusive perfume materials, which help to mask the characteristic odor of the isopropyl alcohol. As already pointed out by Poucher, these materials consist chiefly of the various aromatic esters. Certain aldehydes and ketones of the aliphatic series boiling above about 150°C. are also extremely useful in this connection, especially the normal aldehydes C_9, C_{10}, C_{12} etc. and methyl hexyl ketone, methyl heptyl ketone and higher homologues. Some of the lower boiling esters, ketones, and aldehydes are also interesting in this connection, but they must be used very carefully if satisfactory results are to be obtained. These include acetaldehyde, butyraldehyde; ethyl, butyl and amyl acetates, vinyl acetate, diacetyl, methyl ethyl ketone, and possibly many others. The proportion of any of these materials required for the proper effect will rarely exceed 1% of the total oils, and will often be much less than that.

In addition to obtaining the "first effect", it should be remembered that isopropyl alcohol perfumes, like any other perfumes, improve with age. We therefore repeat that a freshly made perfume in isopropyl alcohol can not be expected to compare with a matured perfume in ethyl alcohol.

Considerably more water may be introduced into the cheaper isopropyl alcohol perfumes than can be used with ethyl alcohol, and still keep the oils in solution.

Carnation		*Heliotrope*	
412	Isoeugenol	450	Heliotropin
242	Eugenol	50	Vanillin
31	Phenyl ethyl alcohol	65	Ylang Ylang
61	Geraniol c.p.	55	Citronellol
7	Rose, artificial	15	Benzylidene acetone
18	Ylang Ylang, Bourbon	63	Benzyl formate
17	Cananga, Java	68	Tuberose, artificial
121	Amyl salicylate	6	Benzyl isoeugenol
25	Oil of Black Pepper	3.5	Benaldehyde
18	Phenylacetaldehyde	15	Coumarin
48	Vanillin	25	Musk ambrette
		184.5	Diethyl phthalate
1000		1000	

Rose		*Jasmin*	
375	Phenyl ethyl alcohol	360	Amyl cinnam. aldehyde
115	Citronellol	250	Benzyl acetate
75	Citronellyl acetate	126	Linalyl acetate
250	Hydroxycitronellal	80	Linalool
150	Beta-ionone	73	Ylang Ylang
35	Phenyl acetaldehyde	84	Rose artificial
		17	Neroli, artificial
		10	Indol
1000		1000	

(Continued on page 495)

Handling Costs

By F. W. Nitardy*

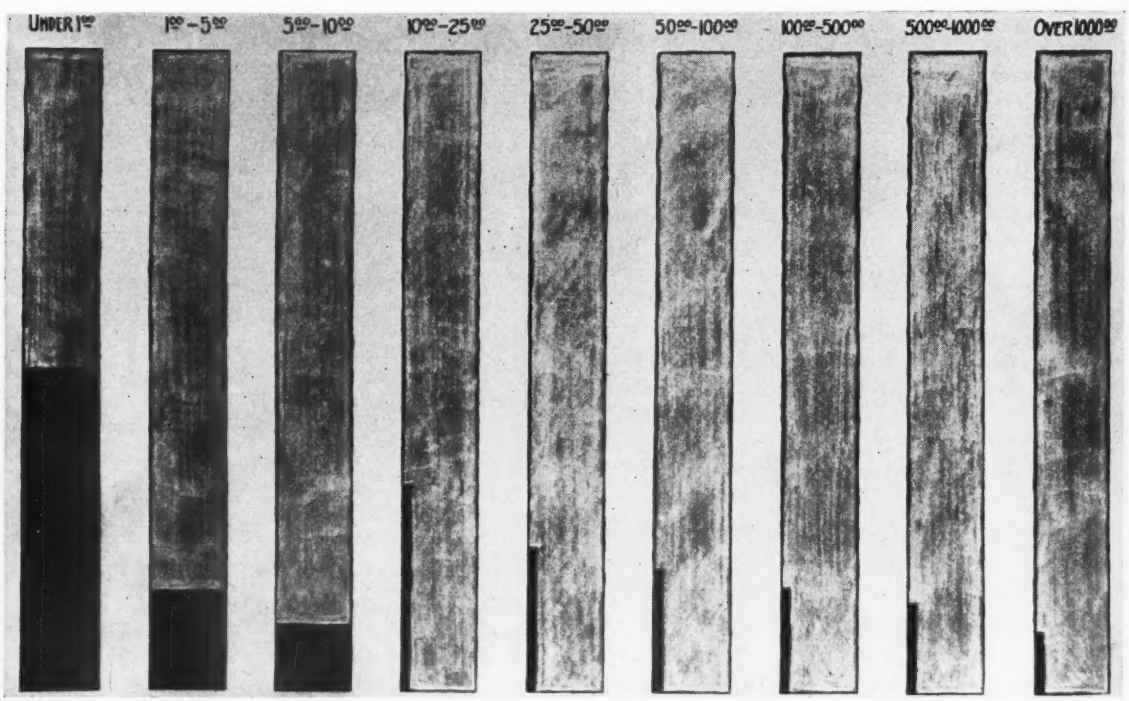
The well-known, but little considered fact that small orders bring a heavy loss through handling costs alone is forcefully brought out by Mr. Nitardy.

SOME time ago I became interested in making a study of the handling costs involved in connection with receiving, assembling and packing an order ready for delivery or shipment. In this study, all orders received during thirty days were classified according to invoice value, into nine groups ranging from an invoice value of less than $1.00 to an invoice value of more than $1,000.00. Careful time studies were made on every phase and operation through which the order had to pass, from the time that the written or telephoned order was received until the merchandise had been assembled and packed ready for delivery on the shipping floor. Average costs were then determined for orders of each class. The results of this study are shown on the chart and represent rather interesting information.

*E. R. Squibb & Sons. Read before A. D. M. A.

The study shows that the cost of handling an order with an invoice value of $1.00 or less is approximately forty-nine times as great per dollar of merchandise sold as when the invoice value of the order is $1,000.00 or more. It is generally considered that manufacturing operations should yield a net profit of at least 10%. It is interesting to note that on an order of between $5.00 and $10.00 in invoice value this handling cost alone amounts to 10%. As there are many other costs connected with such orders aside from those covered in this particular study, it is evident that if the manufacturer has an average net profit of 10% on his operations he will make no profit at all on orders of $10.00 or less. Even on orders with an invoice value of $10.00 to $25.00 this handling cost represents 3⅓% of the invoice value. It is not until orders reach an

(Continued on page 495)



Showing part of invoice value consumed in handling cost, not including delivery, accounting, collections. Figures at top are invoice value; at bottom per cent. for handling.

Vitamin A and D Assay

By A. D. Holmes*

Methods proposed by the A. D. M. A. Vitamin Assay Committee for the U. S. P. XI are given. These methods with a few slight modifications will soon be the official standard.

VITAMIN A. Cod liver oil shall be assayed for its vitamin A by following method: It is recommended that a cod liver oil of known potency assayed by method herein described be accepted as provincial Standard of Reference for Vitamin A, and that a selected sample of carotene be held in view as a possible secondary standard. When so assayed, the oil shall contain at least 400 Vitamin A units per gram or equivalent in international units.

This assay is based upon estimation of minimum amount of cod liver oil necessary to meet specific growth-promoting as well as relative anti-ophthalmic requirements in a standard test animal kept under definite control. Test animals shall be rats from known source and bred preferably under direction of experimenter.

Vitamin A potency of the cod liver oil shall be expressed in units per gram of oil, the unit to be minimum daily amount (in mg.) of cod liver oil required to cause, in 60% of animals in any one group, a gain in weight of at least 12 grams within 28 days under conditions of growth and diet specified in this assay. Maximum weight must be attained at end of test, and eye condition must be corrected by an amount of cod liver oil not to exceed three times minimum growth factor.

Vitamin A content per gram of cod liver oil is computed by dividing one thousand mg. by determined minimum daily amount of oil, in mg., required to induce requisite growth recovery.

METHOD FOR VITAMIN A. It is desirable that each laboratory should establish its own breeding colony or else secure rats under known conditions as to age and dietary history.

In breeding, males and females should be kept on well-balanced diet not too excessive in vitamins A and D. Following diet is suggested:

Breeders Diet

Wheat meal (entire kernel)	33.0%
Yellow corn meal (entire kernel)	34.0%
Whole milk powder	21.0%
Old process Linseed Oil meal	7.0%
Alfalfa leaf flour (green color)	2.0%
Liver (vacuum dried)	2.0%
Calcium Carbonate	0.5%
Sodium Chloride	0.5%

Such diet should be supplemented daily by giving each rat some fresh green leafy vegetable, preferably lettuce or spinach about five grams per animal.

When females are about 100 days old, they are mated. Litters are reduced to seven rats each when young are five to seven days old. On 10th to 12th day, green stuff is discontinued. At weaning (21-23 days old) mother is taken away and placed on regular diet.

When young are 21-26 days of age, weighing 38-45 grams, they are fed the Vitamin A-Free Diet, but adequate in other respects, so as to deplete them for vitamin A test.

Vitamin A-Free Diet

Casein (freed from vitamin A)	18%
Salt Mixture (Osborne & Mendel, or McCollum No. 185	4%
Agar (finely ground)	2%
Yeast (dried) (1)	8%
Cornstarch	63%
Hydrogenated vegetable oil (vitamin free)	5%
Vitamin D (2)	

(Water supply should be distilled water)

Vitamin A Test

Animals fed such diet should manifest, in due course, one or all of following: decline in weight, or stationary weight, or xerophthalmia in varying degrees. Tentatively, it has been agreed to accept weight criteria for beginning of treatment with cod liver oil (or related products). Preferably, ophthalmic condition should also be manifest, but in case it is not, then as a check, similar control test rats show eye symptoms not later than 10 days after starting treatment. Weight criteria are either declining or stationary weight for five to seven days. To insure more comparable conditions the beginning of administration of cod liver

*The E. L. Patch Co.

oil should preferably not occur before 25th day or after 40th day of vitamin A free preparatory period.

Distribution of rats, when ready, should be so adjusted that there will be at least six in each group, having one group as negative control, and that doses vary from group to group so that one can judge potency of oil above and below unit value sought. To dilute cod liver oil (or product) use vitamin A and D free peanut or corn oil. Check tests should be made on this diluent from time to time. Dilution should be made so that dose at any time is not too large to affect animal's condition. It is suggested that 0.1 cc. be used. Dilution should be made at least once a week, and kept in a cool, dark place. Standard of Reference should be run parallel with product under test. Doses should be given at regular intervals, separate from diet, preferably daily.

Record should be made of body weights and eye condition at least twice a week. Eye condition may be designated as normal, watery, sensitive to light, cedema, bloody exudate, pustules and opacity of cornea.

Notes: (1) Yeast should have a vitamin B complex potency such that not more than 150 mg. daily is required for recovery test on Sherman and Spohn basal vitamin B-complex ration.

(2) Vitamin D content of diet, may be derived from any suitable source free from vitamin A, and should be equivalent to vitamin D content of 3% of Standard Reference cod liver oil.

VITAMIN D (Antirachitic). Cod liver oil (or related products) shall be assayed for vitamin D content by following method: It is recommended that a solution of irradiated ergosterol of definite potency, or a cod liver oil of known antirachitic potency, as assayed by this method be used as Standard of Reference. When so assayed, oil shall contain at least 100 Vitamin D units per gram or equivalent in international units.

This assay is based upon estimation of minimum amount of cod liver oil necessary to initiate a specific degree of recalcification in leg bones of rachitic rats reared and fed under definite control as specified hereinafter.

Vitamin D potency of cod liver oil shall be expressed in units per gram of oil, the unit to be minimum average daily amount (in mg.) of cod liver oil required to produce, in 60% of animals in any one group, a degree of recalcification represented by a narrow continuous "line" across metaphysis of leg bones of rats which have been kept and fed under conditions as specified in assay.

Vitamin D content per gram of cod liver oil is computed by dividing 1,000 mg. by determined minimum average daily amount of oil in mg., required to induce requisite degree of recovery. Average daily dose is total amount of cod liver oil given divided by length of test period, 10 days.

METHOD FOR VITAMIN D. Use rats of known dietary history as described under vitamin A method. When rats are 25-30 days old, they should weigh 50-60 grams. They are then fed either Steenbock rickets-producing diet No. 2965 or McCollum Diet No. 3143.

Steenbock Ricket-Producing Diet No. 2965

Whole yellow corn (freshly ground)	76%
Wheat Gluten	20%
Calcium Carbonate	3%
Sodium Chloride	1%

McCullum Ricket-Producing Diet No. 3143

Corn (yellow)	33%
Wheat (soft winter)	33%
Wheat Gluten	15%
Gelatin	15%
Calcium Carbonate	3%
Sodium Chloride	1%

The rats should receive distilled water.

After experimental animals have been on rachitogenic diet for suitable period (18-21 days), examine leg bones of four rats by "line test" as described later, to ascertain whether a satisfactory stage of rickets has been attained. If so, remainder is considered as satisfactory for test, and should be distributed into groups of at least seven animals each, reserving one group as negative control. The doses should be varied from group to group so that one can judge potency of cod liver oil above or below unit value sought. Standard of Reference should be run parallel with product under test.

From beginning of administration of cod liver oil, and Standard of Reference, rats should be kept in individual cages and record made of daily food consumption.

Cod liver oil (or related product) and Standard of Reference should be diluted with a vitamin A and vitamin D free oil, such as peanut or corn oil, so that total daily volume of oil consumed by each rat shall not exceed 0.1 cc. These dilutions should be prepared as often as once a week. Dilutions should be fed separate from diet. Negative control group should receive equivalent amount of diluent.

Dilutions should be given over eight consecutive days. Rats are then continued on rachitogenic diet for balance of 10 day test period to allow for latent effect.

Any animal which has lost weight continuously during test period, has eaten less than two grams of food on two consecutive days, or has averaged to eat less than four grams of food per day should be excluded from final interpretation.

At end of 10th day of test, animals should be killed, and femur and tibia (or ulna and radius) removed from right leg and preserved in formaldehyde (10%) for examination essentially as follows: rinse in water, split, place in acetone for three minutes, dry, treat with silver nitrate (2%) for three minutes, place under bright light until "line" is clearly evident, immerse in sodium thiosulfate solution (5%) for three minutes, and examine under binocular microscope.

Packing
Face Powder

Manufacturing Face Powder

By Francis Chilson

A comprehensive article covering production of a most important cosmetic. Proper ingredients, proper handling of the ingredients, proper methods of mixing, and other phases are intelligently discussed.

ALTHOUGH there are a multitude of materials with which face powder can be made, the concensus of opinion at this writing seems to be that a properly proportioned blend of talc, zinc oxide, zinc stearate and precipitated chalk will produce a face powder surpassed by none made with other ingredients. Recently, considerable interest has been stirred by the possibilities of colloidal clay and titantium oxide, but as yet, the superior merit of powders made with either of these materials has not been demonstrated if, indeed, such superiority exists.

Much research effort has been wasted juggling possible ingredients owing to lack of knowledge of the function of these ingredients and the effect of different grades on the efficacy of the face powder. One might juggle ingredients until doomsday without getting any-

Another view of face powder filling

where unless he first understands that the powder for a given type of skin must have covering power, slip and adhesiveness; that the powder which is suitable for an oily skin is not suitable for a dry skin for reasons which will presently appear; that there are almost bewildering differences in face powder ingredients—especially talc—which, though they may be slight will have a definite effect upon the efficacy or the color of the finished powder.

Face powder research, therefore, is divisable into three phases: the first, involving the determination of the function of each ingredient and the determination of the proper proportion of each ingredient for a given type of skin; the second, embracing an examination of the various grades of raw materials available; and the third, including the establishment of the proper manufacturing procedure and the selection of the right equipment to give efficacious and uniform results. Boiled down, face powder research is a trial and error procedure conducted scientifically.

Two Types of Skin

In regard to types of skin, it has been pretty generally agreed that powder need be made for only two classes: dry, which is most common; oily and normal. A powder suitable for a dry skin will not be suitable for an oily one. Conversely a powder suited to an oily skin will not be suitable for a dry skin. A powder for dry skin is usually called "light", that for oily and normal skin "heavy." The dry skin requires more slip, more adhesiveness and less covering power; the oily skin more covering power, less slip; and the question of adhesiveness is relatively unimportant because the natural oils of the skin tend to hold the powder on the face. Hence, the powder for a dry skin will have a relatively large percentage of talc, a normal amount of zinc oxide and enough zinc stearate to hold the powder on. The heavy powder will have less talc but a much greater amount of zinc oxide.

The following typical formulas may be taken as a guide to experimentation:

	Light	*Heavy*
Talc	65 to 75%	50 to 60%
Zinc Oxide	18 to 22%	25 to 30%
Zinc Stearate	5 to 10%	3 to 5%
Precipitated Chalk	2 to 3%	2 to 3%
Perfume	½ to 1%	½ to 1%

Having determined the formula, the next and most difficult proceeding is to get hold of the right grade of raw materials. Often this boils down to the location of sources of supply, because identical grades of raw materials are seldom carried by two different suppliers. USP zinc oxide for instance, while chemically identical, may range in color from brownish gray to grayish white, the desideratum being to get hold of one that is uniformly white and fine in mesh. There are also very great differences in colors, ochre especially, which may range from a muddy brown to a clear golden ochre, the latter of course being most desirable. There are no end of talcs of varying degrees of fineness, color and slip. This is true even of talcs which come from the same general locality. For instance many people think of Italian talc as being identical in grade, whereas the fact is that there are a multitude of different Italian talcs. The best talc will be a lustrous snow white of such fineness that a little rubbed between the teeth will give no sensation of grit. There are lesser degrees of difference between the zinc stearates, the best being pure white and not creamy. But as zinc stearate is not so important as the foregoing ingredients minute differences are of little moment. Now the term "white" is a relative one and the whiteness of a sample of material cannot be determined by looking at it alone. A talc for instance that looks as white as the driven snow may look gray or yellowish when compared on a white paper with other samples.

The third element, embracing manufacturing technique and the selection of equipment is of particular interest to the writer and has engaged his attention for several years.

Proper Mixing

You are all familiar with the traditional method of making the powder in a horizontal spiral-ribbon mixer, rubbing up the color in a brush sifter, and sifting the powder either before or after the batch has been mixed. This set-up requires three pieces of equipment—all relatively slow in speed. Objections to this method, center about the amount of time taken to finish a batch—usually from three to five hours depending on the weather—the lack of uniformity in results, or rather the difficulty of getting a unifom result, which usually requires considerable juggling; the extreme dustiness of the entire process; and finally, its high cost, both as to time and power consumed.

The next development came with the use of the pebble mill, or ball mill as they are often called. This method produces more uniform results, is less dusty. Very little if any time is saved by this method and there may even be a slight increase in power cost. Naturally, the powder must still be sifted, either before or after the batch is mixed. In practice the mill is loaded below the shaft line to give a good throw, and a certain weight of the porcelain balls—proportioned to the weight of the batch—are dumped in and the mill sealed. Most of them are equipped with hoods so that they can be discharged without dust. The operator must know how to run a pebble mill; that is, how to load it and what proportion of balls to use, or he will have to run the mill much longer than is necessary in order to work up the batch.

Next is the pulverizer or disintegrator method. There can be no question but that, as far as mixing time is concerned—yes, as far as distribution of color and perfume goes—the disintegrator method has not been surpassed. Tests conducted by the writer demonstrated that from 1,000 to 1,400 pounds of perfectly milled powder can be made in this way, with an incomparably

THE PYCNOMETER

Test for specific gravity or determination of the "proof" of the alcohol. This is more accurate than the alcoholometer commonly used. The pycnometer is being used on a balance scale which is accurate to a tenth of a milligram or $\frac{1}{4,530,000}$ of a pound.

A CHAIN IS NO STRONGER THAN ITS WEAKEST LINK

In your effort to maintain a uniform product you require uniform materials.

Now, of course, all alcohol is not alike—there are many kinds and grades—but a grade, known by a definite brand name should be and *can* be uniform—if sufficient *care* is taken it can be held to certain standards.

Three facts about Rossville alcohol will bear emphasis.

1. Rossville distilling experience covers a period of 84 years, and at all stages of this history the Rossville product has enjoyed the reputation for maximum quality just as it does today.
2. Rossville production facilities include ample capital resources, strategic plant and warehousing locations, ultra modern manufacturing equipment. They are more than adequate to meet every conceivable emergency and guarantee uninterrupted service.
3. Rossville alcohol of all grades is constantly tested, checked and double checked by a dozen tests to verify, maintain, and guarantee uniformity.

ROSSVILLE COMMERCIAL ALCOHOL CORPORATION

Lawrenceburg, Ind. Chanin Bldg., N. Y.

A Division of American Solvents & Chemical Corporation

Rossville
THE SPIRIT OF THE NATION

Atlanta, Baltimore, Buffalo, Boston (Everett, Mass.), Chicago, Cincinnati, Cleveland, Detroit, Grand Rapids, Indianapolis, Kansas City, Mo., Louisville, Newark, New York, Philadelphia, Pittsburg, St. Louis, St. Paul, San Francisco.

perfect distribution of color and perfume. One type of disintegrator consists of a small chamber with a horizontal shaft passing through it to which is attached a series of swinging hammers. This shaft revolves at a speed of 5 to 8,000 rpm and give the powder a terrific beating before it passes through the fine screen in the bottom of the chamber and into the discharge bag. Unfortunately, the powder requires a thorough preliminary mixing before it is introduced into the bashing chamber. This minimizes the efficiency of this type of equipment for mixing face powder. Furthermore, the machine requires considerable horsepower to drive it—but even at that the per ton power cost is less oweing to its great capacity—and it, finally, makes considerable noise. Even if the preliminary mixing could be done away with, the capacity of the mill would be too great for practical purposes. The number of firms with capacity sufficiently great to warrant one are extremely few in number. What is wanted is a piece of apparatus that can be used with profit by the majority of manufacturers.

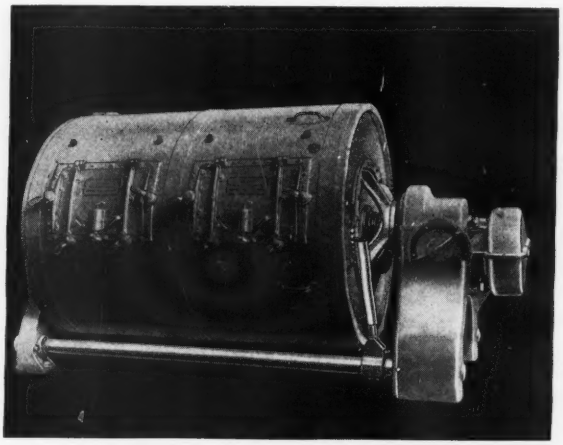
The Batch Mixer

However, there is one possibility the writer is investigating that may overcome the drawback of the standard size pulverizer. This involves the use of a MacClellan Batch Mixer in conjunction with a *laboratory* size pulverizer. The MacClellan Batch Mixer is used in the trade for mixing bath salts, body powder and for speeding the blending of face powder. It consists of a barrel containing two compartments each of which is divided by means of fins. The barrel is driven laterally so that in operation it revolves end for end. Both ends of the barrel are fitted with dust-proof ports. In practice, the barrel is loaded from the top, the powder dropping to the lower section where it is divided by means of the fins. The barrel is sealed and in slowly revolving (six rpm), dumps the powder back into the other section where the fins again divide the batch in a manner similar to that followed in making a powder mix with a spatula *i.e.* by division and re-division. In two minutes the writer secured a perfect mix with this type of mixer, but the color was not rubbed up and the minute zinc oxide lumps remained unbroken. Another deficiency is that the barrel, being of metal causes the powder to cling to its walls.

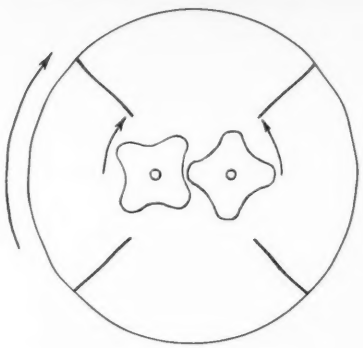
Assuming that it is possible to get a glass lined barrel to which the powder would not stick, it could be mounted in such a way that its contents might be discharged directly into the hopper of the pulverizer. In two minutes, then, the powder would be mixed in the proper proportions and the color distributed but of course not milled. Then the pulverizer could be started, and the batch milled. Even though small in size, its per hour capacity would be far in excess of anything now being used. This set-up could of course be used for the standard size pulverizers also by manufacturers whose volume would warrant it.

The tendency of colors to seep into the interstices where the hammers are swung on the shaft of the hammer type pulverizer could, we believe, be overcome. Also of course, there are other type of mills which do not employ hammers, like the cage mills for instance, where this would not be an objection.

An interesting possibility for the immediate future lies in the use of a churn type mixer, built on the same general principles as a butter churn but lined with glass instead of wood to keep the powder from sticking. The



Churn for Face Powder Mixing



CROSS SECTION VIEW OF REVOLVING CHURN SHOWING BAFFLES AND MILLING ROLLS

churn recommended by the writer consists of a revolving cylinder fitted with internal baffles and enclosing a pair of milling rolls. Incompleted tests have shown that a mixer of this type would have all of the advantages of the machines described and none of their disadvantages. Like the ball mill it is dustless, and, in addition, gives, by means of the baffles, a rapid fluxing action. Like the pulverizer it imparts a milling action to the powder by rubbing it between the internal milling rolls, which revolve in opposite directions. In practice this is how the churn operates:

The powder and the coloring matter and perfume are dumped into the cylinder. The gasketed door is sealed

(*Continued on page 483*)

T. L. White Beeswax

T. L. PURE WHITE BEESWAX, Extra Quality, is prepared from the highest and most costly grade of crude beeswax. It is most carefully selected at its source and again, on arrival at the T. L. factory, examined piece by piece. Doubtful pieces are rejected. It is 100% pure and higher than U. S. P. standards.

Throughout the process of bleaching, the original characteristics of the high grade crude beeswax are retained, resulting in a product of extraordinary value to the cream manufacturer. The high melting point and character of T. L. PURE WHITE BEESWAX imparts to the product a very high emulsion value. This property enables the cream manufacturer to use less beeswax in the preparation of the cream and with the assurance that the emulsion is permanent.

T. L. WHITE BEESWAX has been the standard of quality for *eighty years*. Its constant uniformity gives the best results in making cold cream.

Pioneer Brand
Pure Refined Yellow Beeswax

Extra Quality, 100% PURE and higher than U. S. P. Standard. Made from the same high grade crude beeswax as the T. L. Brand, excepting that it is not bleached white. Because of its natural light yellow color it is especially adapted for lemon creams and like preparations.

•

Guaranteed under Food and Drug Act
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•

Write for samples

•

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The Compounders' Corner

Liquid Toilet Creams

It is not easy to make a well dispersed liquid toilet cream. An emulsifier is generally recommended for this purpose. Nevertheless, it is possible to make such a product without adding the emulsifying agent. A practical formula and process for a liquid toilet cream follows. Eight parts of lanolin are triturated with 12 parts of water. Then 25 parts of soap powder are added and mass worked to a homogeneous mixture. Then 25 parts of refined lard, 4 parts of white beeswax, 20 parts of almond oil and 6 parts of spermaceti are added. These oily and fatty ingredients are best first mixed and melted and added warm.

New Water-Combining Cosmetic Base

By admixing petrolatum with high molecular weight alcohols, derived from spermaceti and wax, and 30% water, a greasy, water-absorbing base is obtained. This base can be used in a cooling cream with boric acid.

Anti-Dandruff Preparations

No toilet preparation has had more attention than anti-dandruff hair washes or hair oils. It is suggested that sodium thiosulphate will give good results. The product is made in following manner. First, a mixture of precipitated sulphur in peanut oil is prepared, 5 parts of former to 20 parts of latter. Then a 25% solution of sodium thiosulphate in water is made. Finally, 10 parts of yellow beeswax, spermaceti and anhydrous wool grease are melted on water bath and mixed with 30 parts of peanut oil. While this mixture is hot, the other two preparations are added, 20 parts of the second. The mixture is agitated until it cools to 25° to 30°C. and perfume is added. Five parts of Peru balsam is added at the very end. It is not advisable to add this ingredient earlier, because it is resinified by constant agitation during manufacturing.

Medicinal Cosmetics

Attention has been called to need of careful selection of coloring matters in making cosmetics. It is best not to use eosin or rhodamine B in lipsticks. While many essential oils are used for perfuming cosmetics, it is much better practice to use only those oils known not to contain injurious ingredients. It is very difficult to trace skin irritation to ingredient that actually makes trouble, and hence it is best to use only oils known to give faultless results. Artificial sunburn was said to be caused by eau-de-cologne under influence of ultra violet light. Later experiments have shown that this phenomenon cannot be caused either by eau-de-cologne or other essential oils. There is one exception, oil of bergamot, when applied to skin that has previously been irradiated. However, this is not true with all persons. No conclusive results have been obtained.

Sodium Perborate in Bath Salts

It is much more advantageous to use sodium meta-perborate in compounding bath salts than hydrogen peroxide. Perborate is more effective and easier to use. Preparation may contain in addition to sodium meta-perhorate powdered boric acid, anhydrous sodium carbonate and oil of knee pine. Only absolutely dry ingredients should be used and product packed air-tight.

Notes on Depilatories

Sulphides of alkalies and alkaline earths are active ingredients of depilatories, but barium sulphide irritates the skin least. Arsenic trisulphide is effective but not altogether safe. The important point in a depilatory base is that it is stable and does not decompose after prolonged storage. Attention is called to the poor results obtained and the bad appearance of a cream which consists only of sulphide, zinc oxide, starch and water. Color of this product, originally light grayish green, changes after two to three weeks to dark green to brown, while creamy consistency disappears and product becomes granular and later compact. Another disadvantage is that 6 to 10 minutes are required to remove hair.

While gum tragacanth has been considered the best filler for depilatories, nevertheless it is also non-stable and the original cream spoils within a short time. A better product is obtained by using the more irritating sodium sulphide in place of barium sulphide. The latter is used with gum tragacanth slime and zinc oxide and triturated into a homogeneous mass. Keeping qualities are thus much improved. Specially prepared emulsifiers of the tegin type have been found to give even better results as far as stability is concerned, but preparations containing sodium sulphide are not very effective in removing hair. Good results follow use of specially prepared carbohydrates with glycerin, sodium sulphide and talc, and also a preservative of oxybenzoic acid ester type. The depilatory in this case has only slight color, deeps well and is very effective. Furthermore, it does not irritate skin and does not dry out.

Sesame Oil in Cold Cream

Sesame oil is used in a cold cream, containing white beeswax, spermaceti, distilled water and geranium oil. Eight parts of beeswax and 15 parts of spermaceti are melted on water bath and 62 parts of sesame oil added in cold. The water, 15 parts, is added in one mass after heating to 35° to 40°C. Mixture is agitated until it begins to thicken. Then it is cooled and agitated again and three drops of geranium oil added. Cream is white or almost white and perfectly homogeneous.

Casein in Skin Creams

Moist casein is absorbed by skin and massage creams are made with it. Ordinary commercial grades of casein are not suitable because of grittiness. Finer grades will rub out well to a cream. Commercial grade may be prepared for cosmetic use by dissolving in sodium carbonate solution and filtering through clean washed calico. Solution is neutralized with dilute hydrochloric acid, diluted well with water at 150°F. and equivalent of 1% of hydrochloric acid is added, gradually with stirring. Mixture is set aside for 2 to 3 hours to precipitate. Latter is then collected and washed. Presence of borax or alkalies in casein should be avoided in making plain massage creams. Boracic acid has proven to be best preservative, although formalin, sodium benzoate or salicylic acid may also be used. Cocoa butter or glycerin or both are advisedly added to prevent loss on keeping. Creams may be diluted with 25 to 50% of cold cream or vanishing cream. Products do not dry so quickly as straight casein creams and are smoother. Under certain conditions cocoa butter may be replaced by zinc oxide or colloidal kaolin.

Lecithin as Emulsifier

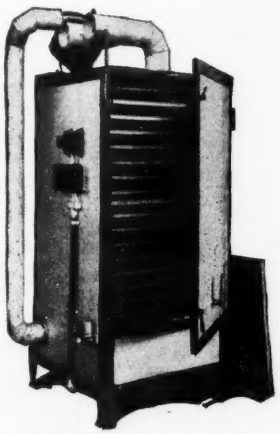
A number of experiments were carried out with lecithin as an emulsifying agent. Various systems were used including lecithin and water, chloroform, oleic acid, linseed oil, olive oil, phenols, etc. It was determined that an aqueous dispersion of lecithin forms dual emulsions with certain non-aqueous liquids. Mechanism of formation of dual types with fat and lipoid solvents is explained. R. M. Woodman. Journal of the Society of Chemical Industry, 1932, 95-100.

No "Summer Drying Problem" with STOKES Drying Closets

H. F. BROWNELL, OF McKESSON & ROBBINS, INC., says: "We have a number of chemicals to dry which have to be under rigid temperature control, and we find the Dryer we purchased from you insures this . . . We will continue to add units as our production increases."

NORMAN F. STORM OF THE CIBA COMPANY, INC., says: ". . . we have ordered another Stokes Drying Closet. The others we have installed have proved so satisfactory that when we found it was necessary to add to our equipment, we turned to Stokes to again supply us."

STOKES Drying Closets and Oscillating Granulator in modern Pharmaceutical Plant.



STOKES Drying Closet No. 38

STOKES new and improved Drying Closet No. 38. Designed for the uniform drying of tablet granulations and effervescing salts. Usually more than quarters the former drying time. Electrically heated with automatic temperature control, making possible economical overnight drying. Compact, each unit self-contained yet of large capacity. Strong, rigid, fire-proof. All 16 trays are rapidly and uniformly heated by re-circulation of air at high speed. Construction fireproof and of high heat-insulated material throughout. Occupies only 3′ by 4′ floor space. Can be heated also by steam.

You can avoid the usual difficulties that come with warm and humid weather by installing "weather-proof" STOKES Drying Closets. See detailed description below, also other new equipment pictured and listed.

STOKES
Pharmaceutical Equipment

Tablet Making Machines
Drug Mills and Mixers
Oscillating Granulators
Drying Closets
Coating and Polishing Pans
Jacketed Kettles
Tube and Jar Fillers
Powder Fillers
Percolators
Bottle Washers
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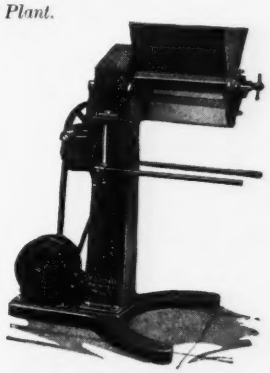
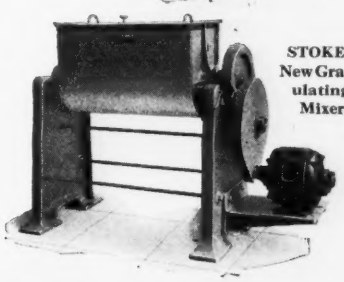
Capsule Fillers
Vacuum Pans and Dryers
High Vacuum Pumps
Alcohol Recovery Apparatus
Conveyors
Water Stills
Special Machinery

Write for Catalog



STOKES New Oscillating Granulator

STOKES Coating Pan, with new stand



STOKES New Granulating Mixer

FJSTOKES MACHINE COMPANY
Pharmaceutical Equipment Since 1895
5932 TABOR ROAD OLNEY P. O. PHILADELPHIA, PA.

Management Forum

By Francis Chilson
Consulting Production Engineer

Batch Neutrality

We are happy to present a contribution from Mr. D. F. Nealon, Chief Chemist, of the National Toilet Co., Paris, Tennessee: Neutrality is a decided advantage in many toilet preparations. Certain types of lotions contain a high percentage of perfume oils which are slightly acid. When these are neutralized filtration is simplified, expensive perfume oil is not caught in filter, and a more stable product is obtained. Other types of lotions are slightly alkaline and for various reasons it is desirable, and sometimes necessary, to have them exactly neutral. A simple method of obtaining reasonably exact neutrality in batches of commercial size is outlined below. For the purpose of exposition let us assume our product to be slightly acid. We will therefore use an alkali such as sodium or potassium hydroxide to neutralize it. If our product be slightly alkaline, we would use the same method, substituting an acid for the alkali. Our method calls for two solutions. Solution Number One: The neutralizing solution is made by dissolving four ounces of potassium hydroxide in 16 ounces of distilled water. Solution Number Two: The test solution is made of one-fourth ounce of the neutralizing solution and enough distilled water to make a pint. Thus we have a neutralizing solution exactly 64 times the strength of our test solution. Let us assume that we must neutralize a 50 gallon batch of lotion. We take four ounces of our thoroughly mixed finished product, add a few drops of Phenolphthalain and titrate with the test solution. Let us assume that the four ounce sample took one mil. of test solution to neutralize it. The sample is one sixteen-hundredth of the batch and the neutralizing solution is 64 times the strength of the test solution. Therefore, one sixty-fourth of 16 hundred, or 25 mils of the neutralizing solution will be required. This amount is to be added to the regular 50 gallon batch. It is most easily and thoroughly done by withdrawing about one gallon of the finished batch; adding the 25 mils of neutralizing solution to it, mixing well and then returning the gallon to the finished batch. We now mix our finished batch thoroughly and it is ready for filtration. For the benefit of those who may want to vary the strength of their test and neutralizing solutions or to use samples and finished batches of different sizes than those given above, we give the following formula:

$$\frac{A}{B} \times \frac{C}{D} \times E = X$$

Where:—

A represents the number of ounces in the batch.

B represents the number of ounces in the sample.

C represents amount of acid or alkali in test solution.

D represents the amount of acid or alkali in the neutralizing solution.

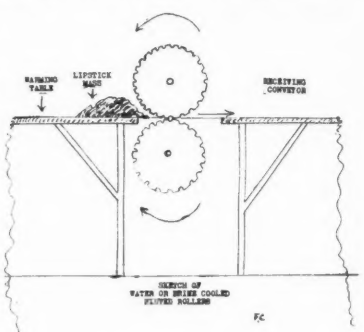
E represents the number of mils of test solution necessary to neutralize the sample.

And—

X equals the number of mils of neutralizing solution needed to neutralize the complete batch.

Automatic Lipstick Making

Some time ago we made some observations on the manufacture of lipsticks. Our object was to suggest a procedure by which the relatively slow molding process could be speeded up. This matter is vitally important to everyone making lipsticks for the five and ten, and also to those having large production of larger sizes sold at higher prices. The problem, as everyone knows, is very difficult because, as a rule, temperatures must be closely watched, and molding conditions must be carefully standardized. Moreover, marks and pinholes are apt to form and these make the sticks unsightly if not unsaleable. Unless several molds are used so that some are chilling while others are being filled, the molding process is very slow.



SKETCH OF WATER OR BRINE COOLED FLUTED ROLLERS

FC

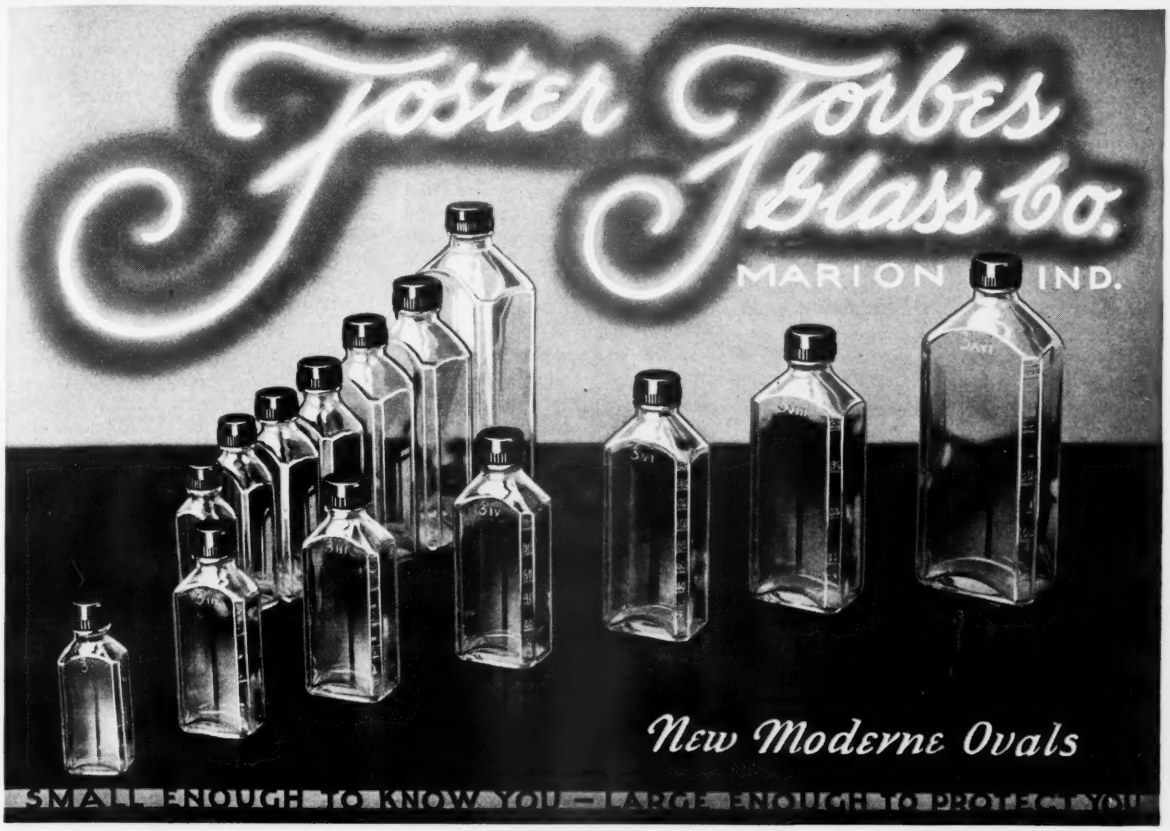
Our first suggestion was to the effect that the lipstick mass could be extruded, and the sticks cut and formed afterward. But we abandoned this procedure because of the difficulty of making a practical set-up to form the ends which would not offset economies made by extrusion. In addition to this some of our readers voiced the objection that some lipsticks are too brittle and would crumble in extrusion.

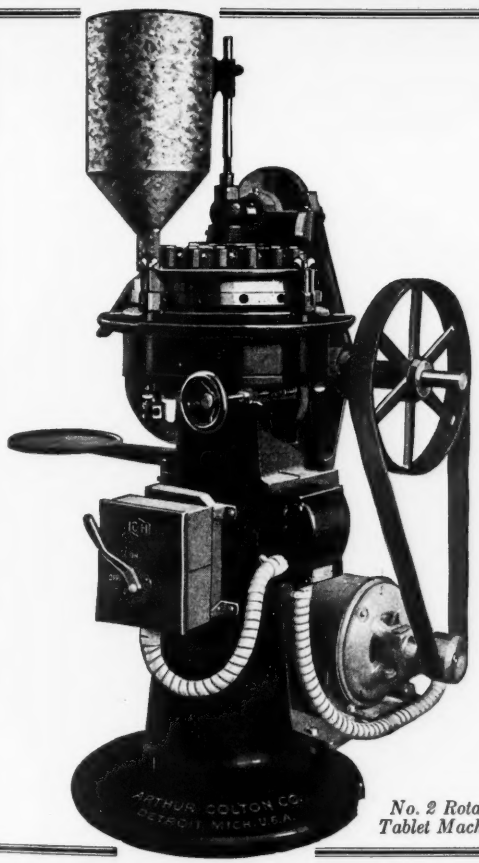
The last objection has no bearing, actually, because it would be folly to try to extrude the mass after it had become thoroughly chilled and crystallized. The mass would have to be extruded after it has set and before it has become cold.

Now we wish to offer a new suggestion which may overcome all the disadvantages of extrusion while retaining its benefits; namely: rolling.

The rolling process we have in mind is similar to that employed in making hard candy sponge. The set-up is rudely sketched in the accompanying drawing. It consists of a warming table, a pair of motor-driven fluted rolls, and a receiving conveyor to carry away the formed sticks as they leave the rolls. The rolls would have the shape of the lipsticks cut into them, chisel ends or otherwise, each roll containing one half the stick. If necessary the rolls could be chilled with water or brine or else a chilling hood could be built over the receiving conveyor.

In practice the semi-cooled lipstick mass would be dumped on the warming table (whose function is to keep the mass from chilling too quickly). The mass would then be fed into the rollers, forced into the grooves and ejected on the receiving table. As the rolls can be made of any metal the problem of sticking would be forestalled. Furthermore, the rolls being chilled and the mass warm, the latter would have a tendency to shrink slightly and would probably fall out of the depressions very readily. If it were discovered that the sticks would not fall out of the depressions of their own accord, a very slight clearance could be left between the rolls so that a thin fin would be formed, in which case, the fin would hold the sticks together so that they would come from the rolls in a sheet. This fin, as it would be extremely thin, would break off of its own accord.





No. 2 Rotary Tablet Machine

New and Improved!

We have no yearly models—but improvements and refinements are being constantly added to Colton machines.

There are over five hundred Colton Rotaries in use.

Superior design, sturdy construction and ease in operation have made this possible.

The No. 2 Rotary Tablet Machine has such desirable features as *positive pressure*, eliminating varying thicknesses of tablets; *hardened steel gear drive*, eliminating frequent replacement of worms used on other makes, and *sliding upper punch holders*, to hold the punches rigidly, enabling the manufacture of special shaped tablets most satisfactorily.

Write for Catalogs.

ARTHUR COLTON COMPANY

2620 East Jefferson Ave.

Detroit, Michigan

The equipment described herein is standard and if any of you wish to experiment we shall be glad to co-operate. The idea is a purely theoretical one with us and we'd like to know whether it would work out in practice. Heavy wax paper on the conveyor would prevent the distruction of the lustre.

The next method to be looked into involves the use of crayon molds. Surely, crayons made of molded wax are not made by a semi-automatic or hand process. It strikes us that they must be molded or rolled automatically. If any of you know anything about how they are made we wish you'd let us know and save us the trouble of looking it up.

Filling Foamy Products

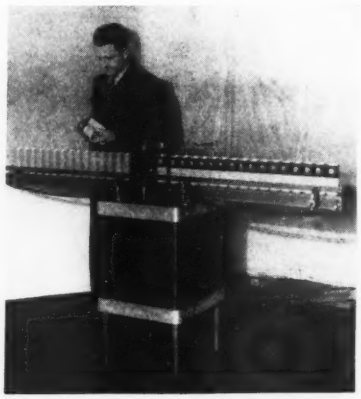
Once in a while a product is so excessively foamy, and the foam is of such a sticky nature, that vacuum filling cannot be employed because the foam tends to dry in the air passages and compels a cessation of operation until the tubes are cleaned. Such products can sometimes be filled on a beer filler, which is equipped with curved tubes that deliver the flow against the side of the container, thus inhibiting the formation of the foam. But we have had pretty good luck with gravity fillers, fitted with foam tubes and designed so that the stem goes down to the bottom of the container and fills from the bottom up. The small amount of foam which inevitably forms in any case is carried off at the top into an overflow.

Cylindrical Wrapping by Automatic Machinery

Last month we had a piece in this department concerning the Reddington machine for wrapping cylindrical packages. We present herewith a photograph and the comments of Mr. Charles L. Barr, salesmanager of the company, on the operation of the machine: (describing its operation on round cans of deviled ham in the plant of the Wm. Underwood Company.):—

"Filled cans are fed down the inclined chute at the left. Printed wrappers are fed out of a magazine shown at the front of the machine, a strip of glue applied to one end and then placed over the can as it comes into the machine. Can and wrapper are pushed into wrapping wheel where the ends of the wrapper are glued and the six point star folds are made on both ends of the can. The wrapped cans are then taken from the wrapping wheel and fed down the chute, shown in the center of the photograph, under slight pressure and then discharged from the machine at the right.

The feature of the machine is the six point star folds made on ends of the can This is made in such a way as to lock the edges of the wrapper together. This machine can wrap objects of similar size and shape in transparent cellulose."



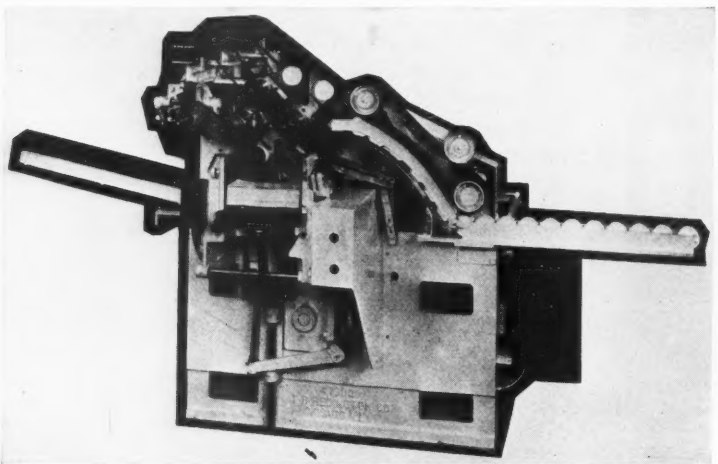
Ferguson Labeling Machine described last month

The Idea Man

Printer's Ink Weekly had an interesting article recently about the manner in which some large companies discover new products for the market. According to the writer, there are two ways to attack the problem: through the laboratory and through a man whose job is to pull new ideas out of the air. Whenever the idea man gets a new idea (or, presumably, swipes someone else's), it is submitted to a merchandising board to determine its appeal, practicability, patentability, etc. and then passed on to the laboratory for technical development.

While this idea may appear slightly humorous at present there is no doubt of its practicability. In most organizations new ideas are generated in a most haphazard fashion:—by the lab, by the sales and advertising men, by the janitor etc. Then if the boss likes them—or after he has thought about them long enough to come to the conclusion that he actually conceived the ideas himself—they are investigated. In due course the firms do a whopping business and the man who first conceived the original ideas is laid off owing to "technological unemployment."

There should be someone in every organization to do nothing but constructive work—*i. e.* thinking. Ordinarily everyone from the president down is cursed with unavoidable routine. And routine kills ideas.



Machine for Cylindrical Wrapping

New Equipment Literature

Paul O Abbe Inc. of Little Falls, N. J. has just issued a new catalogue, "Ball and Pebble Mills and Mixers." This catalogue is one of the best we've seen in recent months. It contains 119 pages of profusely illustrated text, describing the various types of equipment made by this company, all descriptions being succinct and lucid. Many very interesting installation photographs are shown which will be of great interest to manufacturers who contemplate using pebble mills for mixing face powder and the like. The catalogue also describes the company's line of mass mixers, pony mixers, grinders and crushers. Small manufacturers will be interested in the illustrations of various types of portable mixers for mixing liquids and ointments illustrated on the last page.

Samuel T. Hensel Mfg. Co., Denver, Colo. has issued an illustrated pamphlet describing the Hensel syrup percolator which operates by the cold process.

F. J. Stokes Machine Company, Philadelphia, has issued an attractively illustrated pocket-size booklet describing the company's comprehensive line of tablet making equipment.

New Use For Perfumes

Why can't some of you essential oil birds make up an appetizing odor to spray on the customers as they enter restaurants to give appetite an edge and to mask the delicate odor of boiled cabbage?

News

Associations

Noyes Again Heads A. D. M. A.

Having the largest attendance of any meeting in its history, the American Drug Manufacturers' Association, meeting at the Greenbrier Hotel, White Sulphur Springs, W. Va., reelected Nicholas H. Noyes, of Eli Lilly & Co., president. Other officers reelected are: A. Homer Smith, president of Sharp & Dohme, first vice-president; A. C. Boylston, of Mallinckrodt, second vice-president; John F. Anderson, of E. R. Squibb & Sons, third vice-president; Franklin Black, of Charles Pfizer & Co., treasurer; O. W. Smith, president of Parke, Davis & Co., J. H. Foy, of Maltbie Chemical Co., R. Lincoln McNeil, of Robert McNeil, and Willard Ohliger, of Frederick Stearns & Co., members of the executive committee.

The work of the Scientific Section, which is reported upon in other pages of this issue, occupied the first two days of the meeting. The first general session opened on Wednesday, April 20, the president's address, secretary's report and report of the counsel being the main features of the program.

President Noyes brought attention to the fact that the association had come of age as this was the 21st meeting. He reviewed the work of the year mentioning the great work which the association accomplished during the year not only for the members of the association but also for the industry as a whole.

Executive vice-president and secretary Carson P. Frailey also told of the major activities of his office during the year, mentioning the problems in which the association worked with other associations and government agencies.

General Counsel Horace W. Bigelow covered outstanding court cases such as Lee's Save the Baby, and the West Virginia law affecting alcoholic preparations which law he advised members to comply with pending appeal of litigation to the U. S. Supreme Court. He discussed the Copeland bill designed to give the Food and Drug Administration control over advertising of drug products but gave no advice concerning action on it. He treated the subject of federal taxation at some length.

Dr. William Charles White, of the National Research Council, was guest speaker at the opening general session. Dr. White spoke particularly upon the work being done by the council on narcotic addiction. The chemists of the council are attempting to synthesize the various products of opium and the related products. Merck & Co. and Mallinckrodt Chemical Works are cooperating in the work.

The second general session on Thursday consisted mainly of speakers obtained by S. DeWitt Clough, chairman of the Committee on Sales and Advertising Problems. Dr. E. L. Newcomb, secretary of the N. W. D. A., opened the session telling manufacturers how to cooperate with wholesale druggists. Dr. Newcomb spoke of the wealth of material gathered by the association and asked members to study the principles of fair trade suggested by his association to be followed by a conference of the executives of the two associations.

Samuel C. Henry's paper on "How Manufacturers Can Cooperate with the Retail Drug Trade was read by Mr. Frailey due to Mr. Henry, secretary of the N. A. R. D., being confined to his home with an injured foot. Mr. Henry would correct indiscriminate distribution of samples to physicians; better discounts to hospital; revise retail discounts on specialties.

Dr. Paul N. Leech, director of laboratories of American Medical Association, spoke on "How Manufacturers Can Cooperate with the Council on Pharmacy and Chemistry." He told of the aims of the council and the reasons for many of their rules.

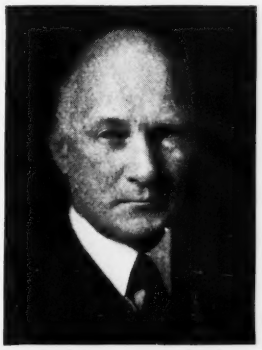
Dr. W. A. Pusey told of the plans for the medical exhibit being arranged for the Chicago exposition in 1933.

Carle M. Bigelow, president of Bigelow-Kent, Willard & Co. delivered an extensive paper on a flexible plan for compensation of sales organizations.

Bertram Again Heads A. M. T. A.

With no less enthusiasm than in former years, members of the American Manufacturers of Toilet Articles met in the Ambassador Hotel, New York in its thirty-eighth annual meeting. Largely did the discussion throughout the meeting center around taxes, although there was no scheduled address upon this subject alone. The report of President H. H. Bertram dwelt at length on the subject as

H. H. Bertram



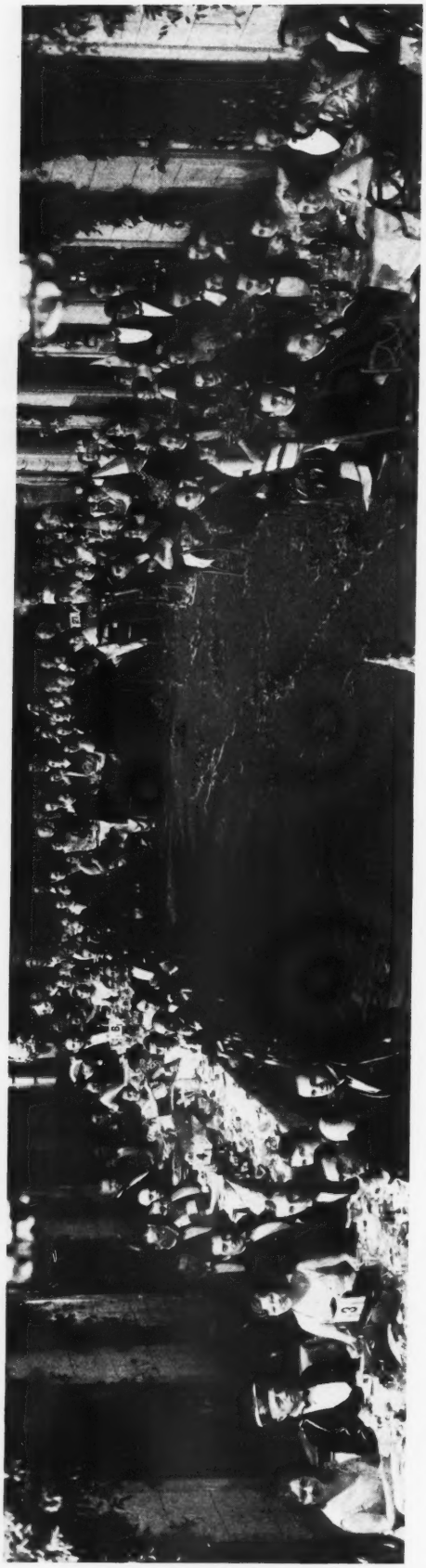
E. B. Hurlburt

N. H. Noyes

A. H. Smith

A. C. Boylston

John F. Anderson



Scenes at A. M. T. A. Banquet

New Bromund Sun Bleachery in Morris County, N. J.

Sun Bleached SNOWFLAKE BEESWAX

To supply the demand for Snowflake Sun Bleached Beeswax and to serve our customers better, more completely and promptly, we have opened a new sun bleachery in Morris County, New Jersey. This will be operated in addition to our bleachery in Elmsford. Stocks are carried in Chicago, Paris, Tenn., Los Angeles, San Francisco and St. Louis.

E. A. BROMUND CO.

Beeswax Bleacheries and Refineries in Morris County and in Elmsford, N. Y.

258 Broadway *Est. 1880* **New York City**

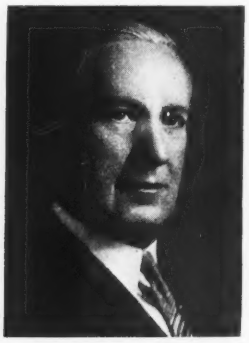
FRANK B. TRACY
102 N. Wells Bldg., Chicago, Ill.

C. L. IORNS
619 Clark Ave., St. Louis, Mo.

MELVIN A. ISAACS & CO., 486 California St., San Francisco, Cal.

did the legislative report of Counsel Abel I. Smith. Considerable discussion followed Mr. Smith's report with members present persistently questioning the counsel regarding the exact status of the tax situation.

Raymond E. Bell, recently appointed managing director of the Essential Oil Dealers' Association, was the first of the



Daniel J. Mulster

guest speakers. He covered the subject of competitive practices in the cosmetic branch of the industry. He talked largely on the subject of demonstrators, pointing out the abuses which often result from employment of this method of sales promotion.

Following Mr. Bell, Thomas L. L. Ryan, of Pedlar & Ryan, stressed some of the points made by Mr. Bell and called upon the members of the association to do something about the unfair competitive tactics which are being employed in the marketing of cosmetics. He classified demonstrators as the arch enemy of advertising. He claimed that if the industry does not correct these abuses, the government will do it.

Phil Paley, buyer of Kaufman, Fifth Avenue, Pittsburgh, made a particularly interesting speech on the relations between cosmetic manufacturers and the retail stores. His keen wit and sarcasm kept the audience at close attention. When questioned on the condition of the drug and cosmetic department of his store. Mr. Paley stated that this department was maintaining its volume in surprising fashion. People are not buying things which the department stores considered necessities, but they are buying cosmetics. Also the demand for lower priced cosmetics has not been marked, as people do not seem to expect lower prices for these products.

Other special addresses were made by Dr. James M. Doran, Commissioner of Industrial Alcohol; Dan B. Hassinger on "Elements of Package Design; and George V. Horgan, general manager of American Paint & Varnish Manufacturers' Association, on "Possibilities of Trade Development Through Associations."

H. H. Bertram was elected president of the association for the third consecutive year. Other officers also reelected are First Vice-president E. B. Hurlburt; Second Vice-president and treasurer Daniel B. Mulster; Secretary Charles S. Welch.

Three new members were elected to the board of directors: J. A. Ewald, California Perfume Co.; Carleton H. Palmer, E. R. Squibb & Sons; Cecil Smith, Yardley, Ltd. Northam Warren was reelected to the board.

Resolutions passed by the associations included admission of cosmetic importers to membership in the association. This was with a view to unity of the cosmetic branch of the industry in fighting taxes. Membership was formerly restricted to domestic firms because in former years the tariff was the major problem and not taxation. A resolution was passed condemning the proposed sales tax of ten per cent, and offering the comprise of a tax of two per cent, which the manufacturers will absorb without passing it on to consumers in any degree.

A. P. M. A. 25th Meeting

American Pharmaceutical Manufacturers' Association held its twenty-fifth annual meeting at Sedgefield Inn, Greensboro, N. C., May 16 to 20. This silver anniversary meeting was featured by a round table discussion of economic trends in medicine, lead by Dr. H. Sheridan Baketel. Among the speakers on this subject were Dr. Louis I. Dublin, Metropolitan Life Insurance Co.; Dr. Robert P. Fischelis, men ber of committee on "The

John G. Searle

Costs of Medical Care;" C. C. Concannon, chief, Chemical Division, Department of Commerce; F. A. Delgado, Merchandising Research Division, Department of Commerce; and Harold S. Stevens, managing editor, "Medical Economics." This discussion was held on the afternoon of May 17 and aroused considerable interest, most of the members participating in the general discussion which followed the scheduled talks.

The meeting opened Monday morning with the roll call and following committee reports: Attendance, L. D. Humphrey, Chairman; Membership, S. W. Fraser, Chairman; Memorials, B. L. Maltbie, Chairman; Time and Place of Meetings, H. B. Johnson, Chairman; Associate Members and Entertainment, H. W. Simpkins, Chairman; Delegates to National Drug Trade Conference, Harry Noonan, Chairman; Delegate to U. S. Chamber of Commerce, C. D. Smith, Sr., Councillor; Report of Secretary, Clarence

S. W. Fraser

C. W. Warner

W. Warner; Report of Treasurer, Frank A. Mallett; Address of President, John G. Searle.

Afternoon 2.00 P. M. Qualifying Round of Golf; evening, 9.00 P. M. Report of Legislative Committee, C. D. Smith, Sr., Chairman: Address by Charles Wesley Dunn, Counsel.

Tuesday morning there was a meeting on distribution with Carl N. Angst, Chairman. Speakers discussed information from statistics gathered and recommendations for future activity by Paul Klemtner; "Shipping Department Expense" Richard Noonan; "Cost of Distribution based on Distance from Point of Manufacture" C. D. Smith, Jr. Committee on Pensions Eliot S. Frosst, Chairman; (a) Talk and explanation on "Pensions and Annuities" by E. C. McDonald, Metropolitan Life Insurance Co.

In the afternoon there was the round table meeting on economic trends in medicine, already referred to; and in the evening the members and their friends were entertained by a program arranged by associate members.

Which Quince Seed is Best?

A **B** **C**

These photographs of three lots look equally fine—yet lot A is worth more than four times as much as B or C.

Positively no one—no matter how experienced—can judge the value of a lot of seed simply by looking at it.

Nor can anyone buy seed intelligently solely on the basis of a trade designation, or on price alone.

The only intelligent way for you to buy Quince Seed is by testing for color and quantity of mucilage. Thus you eliminate all guesswork or "salesmanship" and buy strictly on merit.

If you are not familiar with this test, developed by us for your protection, write to us for further details.

JOHN POWELL & CO., Inc.

114 E. 32nd St., New York

Tested Quince Seed	—	Powdered Neutral Soaps	—	Concentrated Shaving Cream Base
Assures real buying economy		Laboratory controlled, physically and chemically		Guarantees production of finest type cream

On morning of May 18, there was a meeting on sales problems with Merrell J. Brown as chairman. Speakers were W. J. Burke on "Laying out New Territories and Getting Reliable Information Regarding the Number of Dispensing Doctors Therein"; E. H. Hessler on "A Method to Keep up the Enthusiasm of Salesmen on Items which the House Wishes Detailed and Sold"; and M. J. Brown on "What Can Be Done to Minimize Decreasing Sales." Following this, there was a report of the committee on advertising, George R. Flint, chairman, in which there was presented an actual direct mail campaign, giving all details and ramifications including cost of art work, printing, mailing, etc. and the actual tie-up and handling of the campaign from every standpoint. Finals of the Golf Tournament were held in the afternoon.

The association's annual banquet was held in the evening with Dr. Alfred S. Burdick, Abbott Laboratories, as guest speaker. The golf prizes were distributed at the close of the banquet.

The meeting closed the next day with the Report of Committee on Laboratory Efficiency J. B. Frosst, Chairman; Report of Committee on Business Policy, S. W. Fraser, Chairman; Report of Committee on Returned Goods, H. F. Snider, Chairman; (Recommendations for uniform rules and plans for handling this phase of our business; Report of Special Committees and Installation of Officers and followed by an Executive Session.

I. & D. M. A. Meeting

Insecticide and Disinfectant Manufacturers' Association will hold its mid-year meeting May 23 and 24 at the Edgewater Beach Hotel, Chicago. On May 22, there will be a combined meeting of the board of governors with all committee chairmen. The meeting will end with the mid-year informal banquet on Tuesday evening, May 24, in the Lincoln room of the hotel. An informal golf tournament will also be held in connection with the meeting this year at the Tam o'Shanter Country Club on Sunday afternoon preceding the convention.

Among the speakers are: Evans E. A. Stone, William Peterman, Inc.; John Powell, John Powell & Co.; Dr. Robert C. White, Robert C. White Co.; Charles P. McCormick, McCormick & Co.; Dr. Charles A. Peet, Rohm & Haas Co.; Dr. Alfred Weed, John Powell & Co.; Peter Dougan, Merck & Co.; Dr. George F. Reddish, Lambert Pharmacal Co.; L. C. Himebaugh, Pease Laboratories, Inc.; C. C. Baird, Baird & McGuire; H. W. Cole; W. J. Zick, Stanco, Inc.

Chemical Salesmen's Golf

Chemical Salesmen's Association has announced the following schedule of golf tournaments for the coming season: June 7, North Hills, Douglaston, L. I.; July 12, Braidburn, Madison, N. J.; August 9, Green Meadows, Harrison, N. Y. There will be a final party and tournament in September and plans for this will be announced later.

Chicago Ass'n Dinner Dance

Chicago Drug & Chemical Association held its second annual dinner dance and ladies' night, April 28, at the Medinah Athletic Club, that city. The program was arranged by a committee whose members were Floyd K. Thayer, chairman; Walter A. Kochs, Arnold G. Schneider, and Frank L. McCartney, and was one of the most successful functions the association has ever held. Officers are president, Wm. O'Neill; vice-president, E. L. Drach; treasurer, M. B. Zimmer; secretary, J. Wm. Brooks.

A. C. S. in St. Louis

American Chemical Society held its eleventh midwest regional meeting at the Coronado Hotel, St. Louis, May 5-7, 1932. Speakers in the pharmaceutical group were F. C. Koch, "Testicular Hormones"; S. M. McElvain, "Local Anesthetics"; and E. A. Doisy, "Secretions of the Ovary."

Chicago Ass'n Elects

Chicago Drug and Chemical Association has elected the following officers: president, William O'Neill, Emerson Drug Co.; vice-president, E. L. Drach, Abbott Laboratories; treasurer, M. B. Zimmer, Fritzsche Bros.; secretary, J. W. Brooks, Bristol-Myers Co.

N. W. D. A. Spring Meeting

National Wholesale Druggists' Association held its spring meeting in the Hotel Statler, St. Louis, April 28 and 29. The organization has approved a plan to bring about legislation which will define just what may be meant by the term "doing business" in the states to which exception may be taken in the enforcement of arbitrary "foreign" corporation laws.

Cosmetic Color Survey

American Manufacturers of Toilet Articles is conducting a cosmetic color survey in order to compile a list of American made colors now being offered to the cosmetic manufacturer. Form cards have been distributed to manufacturers of cosmetic colors with the request that they be filled out and returned to Dr. M. T. Bogert, Columbia University, New York, who is acting for the committee.

F. T. C. Hearing on McK. & R.

Federal Trade Commission will hold a hearing in Washington, June 2, to determine whether or not the commission will reconsider its action in issuing its amended and supplemental complaint against McKesson & Robbins, Inc., charging operation in restraint of commerce.

People

Huisking on Norway

Charles L. Huisking, president of the company bearing his name as well as of The Peder Devold Oil Company, Inc. (American agents of the Norwegian firm of that name) returned last week from a visit to Norway where he went in connection with the business of the latter firm. Conditions in Norway are a revelation to a visitor from this country, stated Mr. Huisking, as the people there today are so much concerned with the fluctuating value of their money that their minds are charged with little else, and the art of merchandising has been relegated to one of trading in foreign Exchange.

The cod liver oil production of this year is a most plentiful one. Under such con-

Charles L. Huisking

ditions it would be expected that the price would decline and in fact in foreign moneys it has, but due to the fact that there is no certainty of the value of their own money the Norwegians are buying all the oil they can get hold of, preferring to have their wealth in merchandise rather than in questionable monetary exchange. It is a surprising fact that Norwegian oil traders regret that there isn't more oil available for them to invest in.

Mr. Huisking further stated that such conditions are difficult for an American to grasp at a distance and that since it is a basically unsound condition it will probably cause a misunderstood and unsatisfactory state of affairs until it rights itself.

The quality of this year's production of Norwegian oil is exceptionally fine and Mr. Huisking ventured the opinion that due to intense competition between producers and exporters of oil, and manipulations, that necessarily result therefrom, as well as the generally unstable state of affairs, Norway is prevented from securing the advantages that Nature has endowed her with in cod liver oil.

After leaving Norway Mr. Huisking spent a few days in London and, at least on the surface, conditions there seem to be better than for some years past due to increased volume of exports, made possible by the abandonment of the gold

from the 4 corners of the earth

IN far-off lands Fritzsche Brothers guard their sources of supply, supervising distillation and production of the various essences so that you may ever be assured of sound, uniform quality. FROM . . .

» » BULGARIA . . Rose
GERMANY . . Many Essential Oils and Synthetic Aromatics
EGYPT . . . . . Cassie Ancienne
SPAIN . . . . . Rosemary, Spike Lavender, etc.
FRANCE . . . . Absolute Flower Essences
ALGERIA . . . Geranium
ABYSSINIA . . Civet

Every corner of the earth contributes its share—and where we do not own or control the source of supply—we have maintained connections for a score or more years.

●

FRITZSCHE BROTHERS INC.

Proprietors of
PARFUMERIES DE SEILLANS
Seillans, France

Sole Agents in U.S. and Canada for
SCHIMMEL & COMPANY
Miltitz (near Leipzig) Germany

118 W. Ohio St.
Chicago

78-84 BEEKMAN ST.
NEW YORK

Fritzsche Bros. of Canada, Ltd.
77-79 Jarvis St., Toronto

standard, but it is remarkably noticeable that prices have shown no tendency to advance which usually is the case when money deflates in value.

Joe Wafer---Crooner

"Joe" Wafer, Assistant Sales Manager of Industrial Chemical Sales Co. Inc., 230 Park Avenue, New York City—the well known "Nuchar Crooner"—added to his reputation by being selected as soloist at the Annual Banquet of the American Water Works Association held during the Convention at Memphis on May 4th. His rendering of old-time ballads was full of pathos and sympathetic reactions were distinctly noticeable in the audience. He was ably accompanied by versatile "Bill" Orchard, General Sales Manager of Wallace & Tiernan Co., who also assisted in performing on the "Raddiolodion."

Keyser Heads Nelson, Baker

Frank W. Keyser, general manager, Nelson, Baker & Co., Detroit, pharmaceuticals, has been elected president of the company, and Frank T. Nelson has been elected chairman of the board. Frank W. Keyser has been connected with the company for thirty-two years during which he has held many executive positions. From 1903 to 1913 he was manager of the Kansas City branch and was later called to the home office where he became sales manager and subsequently general manager.

Lee Bristol to Serve

Lee H. Bristol, vice-president, Bristol-Myers Co., New York, drugs and cosmetics, has been named head of the advertisers committee for the advertising and publicity division of the Washington Bicentennial Celebration.

Lee Wiltsee Legion Commander

Lee Wiltsee, secretary-treasurer, William S. Merrell Co., Cincinnati, pharmaceuticals, has been named commander of the Ohio Commandery of the Loyal Legion.

de Hoyos Republican Delegate

Luis de Hoyos, general manager, Synfleur Scientific Laboratories, Inc., Monticello, N. Y., has been elected an alternate delegate at large to the Republican National Convention.

Landesman Goes Abroad

Karl C. Landesman, of Bamberger, Bloch & Landesman, Inc., New York, crude drugs, sailed May 21 on the S. S. "Bremen" for a business trip which will take him through all the countries of Central Europe.

Mudge Heads du Pont's Aromatics

E. I. du Pont de Nemours & Co., Inc., announces that Arthur W. Mudge has been placed in charge of aromatic sales for the company's fine chemical division, located at 260 West Broadway, New York.

E. F. Frank Joins Escho

Edward F. Frank, who was for twenty-eight years associated with McIlvaine Brothers, Philadelphia, as that firm's New York manager, and who has a wide acquaintance in the drug trade, has acquired an interest in The Escho Corp., New York, manufacturer, importer and jobber in drugs, spices, seeds, gums and waxes. Mr. Frank has taken up active duties with the corporation, which was established in 1916, and which will now carry a full line of crude drugs.

F. D. Gonda Advanced

Francis D. Gonda, vice-president, Einson-Freeman Co., Inc., Long Island City, has returned from Chicago where he was in charge of Western sales, to take charge of the company's creative and sales promotion activities.

J. K. Lilly Honored

Josiah K. Lilly, president, Eli Lilly & Co., Indianapolis, pharmaceuticals, has been awarded the "Star of Service" medal as the Indianapolis citizen who has contributed the "most unselfish outstanding and heretofore unrecognized" service to the community.

A. D. M. A. Golf Winners

Winners of the qualifying round of the golf tournament held at the American Drug Manufacturers' Association convention at White Sulphur Springs were: N. H. Noyes, J. G. Searle and H. Rhodehamel. In the tournament the winners were as follows: Dr. H. A. B. Dunning, G. Lee Camp, A. D. Armstrong, G. Beaumont, C. W. Warner, J. C. Chilcott, R. E. Dorland, H. Rhodehamel, Miss Vera Ravenscroft, W. Gordon Cox, S. D. Clough, R. K. Snow and Dr. J. F. Anderson.

Joins Sylvania Corp.

Miss F. T. Helmer, for the past six years manager of the New York office of Westfield River Paper Co., Inc., Russell, Mass., has become associated with the sales department of Sylvania Industrial Corp., New York, manufacturers of greaseproof, moistureproof and embossed transparent cellulose known as "Sylphrap." Miss Helmer has had a most remarkable experience in the manufacture of paper—covering news, wrapping, envelope, book, boxboard, folding cartons, and glassine, from timbering operations to the finished product also printing on the various grades.

Francois Coty, Coty President

Francois Coty has been elected president of Coty, Inc., in addition to his present office of chairman of the board. Alphee Dubois and John J. Rudolph have been elected directors.

La Wall Completes Opium Report

Dr. Charles H. LaWall, Dean of Philadelphia College of Pharmacy and Science, who was appointed some months ago a member of the International Committee of Health Council of League of Nations, to study opium assay methods, and who was at that time appointed Consultant in Pharmaceutical Chemistry to U. S. Public Health Service of Treasury Department so that he could legally import opium upon which experiments were to be made, has completed the first assignment of the work and sent reports to Chairman, Professor L. Van Itallie of Leyden, Holland.

Dr. Weed Returns

Dr. Alfred Weed, entomologist, John Powell & Co., Inc., New York, has returned from a trip through Florida and Georgia where he visited several Government Experimental Stations in the interest of conducting some research work on pyrethrum.

Wrench Becomes Lecturer

J. Wrench, sales manager of Industrial Chemical Sales Co., Inc., New York, manufacturers of "Nuchar" activated carbon, has taken to the lecture platform as a hobby and delivered his first talk at the Men's Club of St. Mary's Parish, Amityville, L. I., on the subject of "By-Products of Industry."

Beautician Supply Officers

Beautician Supply Co., New York, has elected Margaret V. Libby, vice-president, and Harry Helzman, secretary, of the company.

Companies

Tennessee Wholesale Drug Formed

Tennessee Wholesale Drug Co., wholesaler, has been formed in Nashville with the following officers: president, J. Y. Waldrum; vice-presidents, S. Bradshaw and J. W. Burks; secretary, Roy L. Enochs; treasurer, W. D. Richards.

d'Orsay Sales Increase 63%

Parfums d'Orsay, New York, has just announced that for the first three months of this year, all salesmen, except two, show increases in orders taken or sales made ranging from 25% to 195%. The grand average of all the salesmen is better than 63%.

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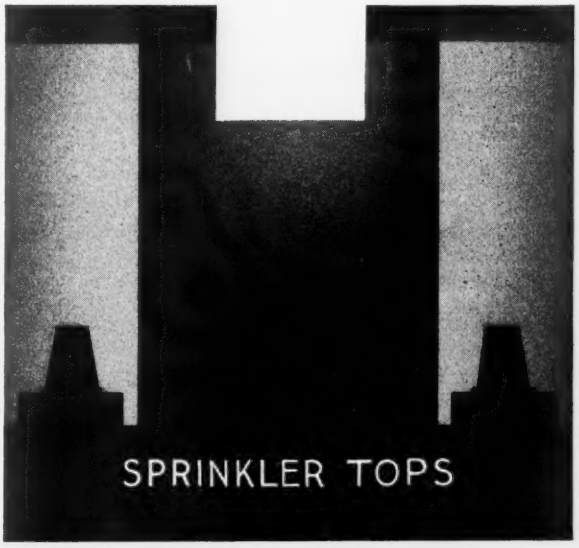
our customers just don't have tube troubles . . . ART TUBES are good reliable tubes . . . carefully manufactured . . . and at the right prices too . . .



Colton Patent Infringed

United States Circuit Court of Appeals, New York, has reversed a decision of the Connecticut District Court in suit of Arthur Colton Co., Detroit, against McKesson & Robbins Co., Inc., for alleged patent infringement. The machinery used by the latter company was built by F. J. Stokes Machine Co., Philadelphia, which defended the suit. Decision of the Court read in part as follows:

It will be observed that this claim describes a machine to perform an operation divided into five steps:—(1) feeding in a strip of metal, (2) shearing off a section, (3) forming it into a V-shaped clip between a pair of jaws, (4) moving the jaws and clip into position over the tube-end, and (5) clamping down the clip. Turning to the defendant's machine it will be found to perform the same operation in steps which may be described as follows:—(1) feeding in a strip of metal, (2) shearing off a section, (3) forming it into a V-shaped clip in a recess in the shearing mechanism, (4) pressing it between a pair of jaws and moving the jaws and clip into position over the tube-end, and (5) clamping down the clip. The differences are these:—In the patented machine the clip-former (the jaws) is also the carrying and clamping element, while in the defendant's the clip-former is the shearing mechanism and the jaws serve only as carrying and clamping agent. In other words, the patent performs steps (2) and (3) by two elements, and the defendant by one, and steps (3), (4) and (5) by one element while the defendant uses two.

The plaintiff contends that the clip of the defendant's machine is not fully formed until it is pressed into the carrying jaws, for concededly they have to compress the clip further (about 3/64 of an inch) in order that the friction resulting from its resilience may hold it in place during transfer to the position for clamping. If this contention were adopted infringement would be shown within the very letter of the claim. Even if it be rejected, as we think it must be, the finding of non-infringement can be sustained only if the patent be allowed no equivalents whatever. Such a view is too strict. It has often been held that infringement cannot be avoided by making a single element of a machine do two steps of a mechanical operation which the patent did by separate elements, or by using two elements to accomplish what that patent did by one, or by merely transposing the parts. Rockwood v. Gen. Fire Extinguisher Co., 8F. (2d) 682, (C. C. A. 2); Nathan v. Howard, 143 F. 889, 893 (C. C. A. 6); Gibbs v. Triumph Trap Co., 26 F. (2d) 312, 314 (C. C. A. 2); Barber v. Otis Motor Sales Co., 240 F. 723 (C. C. A. 2); Root v. Hobbs Mfg. Co., 294 F. 236, 242 (C. C. A. 2). While the patent called for the forming of the clip in the jaws which were to carry and clamp it, the essential part of the invention was not so much the forming of it in those jaws as the holding of it there while it was being carried to the position for clamping. The defendant has taken the substance of the invention; the same result is accomplished by the same principles of operation and by substantially the same means. The patent is valid and should be held to be infringed.

Decree reversed.

Hinde & Dauch's New Plant

Hinde & Dauch, Sandusky, Ohio, corrugated paper boxes, is planning construction of a $400,000 factory building in Hoboken, at Ninth and Monroe sts.

Ritchie Represents Tru-Lax

Harold F. Ritchie & Co., Inc., New York, has been appointed exclusive sales representative for the Tru-Lax Corp., Newark, N. J.

Coty Stops Counterfeiter

On April 6th, 1932 in the U. S. District Court, New Haven, Federal Judge Hincks granted and signed a final consent decree in a suit for unfair competition brought by Coty, Inc. against the Johnson Wholesale Perfume Company, Inc. operators of Allen's Cut-Rate Stores throughout the New England territory. Evidence was offered that bulk perfume offered for sale in the Allen Cut-Rate Stores, represented to be Coty's L'Origan, L'Aimant, La Rose Jacqueminot, Paris and Styx, had been tested by Coty on complaint of a retail customer, and found to be spurious and decidedly inferior to genuine Coty Perfume.

National Oil Vitamin in Bread

National Oil Products, Inc., Harrison, N. J., which provided vitamin D to the Grocers Baking Co., Louisville, Ky., recently sued by General Baking Co. for alleged infringement of patent rights, is offering to license bakers to include vitamin D in their bread. A co-operative merchandising plan is also offered. No decision has yet been rendered in the patent suit.

Iodent and Agfa-Ansco Cooperate

Agfa-Ansco Corp., Binghampton, photographers' supplies, and the Iodent Co., Detroit, toothpaste, will conduct a unique cooperative "National Smile Hunt" from May 15 to August 6. A combined appropriation of about $350,000 will be put behind the contest. Newspapers, 24-sheet posters and an N. B. C. radio hookup will be used. Twelve weekly contests will be staged in the search for "the brightest smile in America." The owner of the smile will receive the grand prize of a two week's trip to Detroit, New York, Philadelphia and other cities, or $500 in cash. Entrants will send the Iodent Co. snapshots of their own or any other bright smiles they can discover. Any camera, film or photographic paper may be used.

Kolar Laboratories N. Y. Office

Kolar Laboratories, Inc., Chicago, has opened an Eastern office at 320 Fifth ave., New York, with R. S. Thompson as Eastern manager.

H. H. Ayer Defeats Recamier

Harriet Hubbard Ayer, Inc., New York, has been awarded the decision over Recamier Manufacturing Co., Inc., in an action involving infringement of registered trade-mark in the United States District Court for the Southern District of New York. The decision reads in part as follows: "Upon the whole case I find that (Recamier Manufacturing Co. Inc.) and its predecessors never registered the signature of Harriet Hubbard Ayer as a trade name and never used it as a trade-mark; that (Harriet Hubbard Ayer, Inc.) or its agent registered the name Harriet Hubbard Ayer in script form as a trade-mark in 1908 and has used the trade-mark uninterruptedly since that time; that (Harriet Hubbard Ayer, Inc.) and not (Recamier Manufacturing Co. Inc.) is the present owner of the trade-mark rights in the name."

Neve Case Review Denied

Supreme Court of the United States has declined to review the controversy of Alfred J. Neve over the bankruptcy of the Neve Drug Stores, Inc., in 1930. Neve claimed the bankruptcy petition was illegal and that the Federal district court in New York violated the law in handling the case. On this ground he refused to testify as a witness and was imprisoned for contempt, but later he was released without recognition of his legal argument. He sought to have the supreme court set aside his release as a means of getting a review of the bankruptcy proceedings, declaring, "a court may not lawfully silence the mouth of the world while it continues deliberately to enter a series of judgments in indisputable violation of the statute which governs its jurisdiction, its power, and its procedure."

Castile Decision Reversed

An order of the Federal Trade Commission forbidding the use of the word "castile" in labeling or otherwise describing soap sold in interstate commerce, the oil or fatty composition of which is not wholly derived from olives, has been reversed by the United States Circuit Court of Appeals for the Seventh Circuit.

The Commission's cease and desist order had been entered against James S. Kirk & Company, the soap business and brands of which was purchased by the Proctor &

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You Can Prevent Vanishing Cream from Disappearing in Your Jars

"FILMASEAL" has been perfected for this purpose

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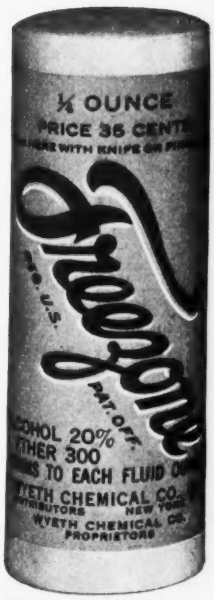
THEY COST LESS!



"Freezone" was formerly put out in a wooden tube. We were called in and built a sturdy paper container for them, at a much lower price, besides showing a savings in postage and freight. Can we not work out the same savings for you? Send us sizes and we will gladly furnish samples and prices.

THE CLEVELAND CONTAINER CO.
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Gamble Company after the entry of the order.

A bulletin of the Bureau of Standards decided the issue.

"The Government, through its agency, the Bureau of Standards," said the court, "has committed itself to the proposition that castile soap may be made of oily and fatty elements other than olive oil.

"Being solely a question of fact we deem it expedient for other departments of the Government, including the judiciary, to accept such construction, if for no other reason than that of consistency."

Cleaning of Drugs to Stop Feb. 1933

Conditional import releases of crude drugs and crude spices for cleaning and other treatment will be terminated February 1, 1933. The official order of the Department of Agriculture is as follows:

While there has been great improvement in the quality of foreign produced drugs, there continue to be offered for entry some parcels which do not conform to the pharmacopoeial, formulary, or administrative standards in that the articles contain an excess of organic or inorganic matter. Heretofore, the United States Food and Drug Administration has allowed conditional entry of such crude drugs for the purpose of cleaning or conditioning to remove the objectionable material and bring shipments within the prescribed standards. Such conditional releases entailed delays and added expense to those dealers importing the articles and also required supervisory attention on the part of the government which was time consuming and expensive.

The requirement that crude drugs offered for entry into the United States comply with the provisions of the food and drugs act is an obligation imposed upon foreign shippers. In the interest of economy it is the conviction of the department that the existing practice of conditional releases should be withdrawn and that careful inspections should be made in foreign countries to obviate refusal of entry on this score. Importers are requested to notify all foreign shippers of this decision. On and after February 1, 1933, no conditional releases will be allowed in the cases of crude drugs as well as crude spices showing organic or inorganic matter in excess of pharmacopoeial, National Formulary, or publicly announced administrative standards. After February 1, 1933, exportation or destruction will be required in the case of such importations showing excessive organic or inorganic matter.

Muir Stores Advertising Checked

Muir Co., Grand Rapids, Mich., chain stores, has been found guilty of violating the Ohio Advertising Statute in its newspaper advertising making the claim of never being undersold. It was found that this claim could not be supported in fact.

Clinical Laboratories Bankrupt

Clinical Laboratories Co., Cleveland, has filed a voluntary petition in bankruptcy. Liabilities consist of preferred claims of $3,256.30 and general claims of $109,245.21. Assets are $2,500.00.

New French Chemical Concern

Societe des Produits Chimiques de Loos has been organized with capital of 600,000 francs, at Loos, France, as importers, exporters and distributors of chemicals and coal tar products.

Bromund Opens New Bleachery

E. A. Bromund Co., New York, beeswax, has opened a new sun bleachery in Morris County, N. J., which will be operated in addition to the company's older plant at Elmsford, N. Y.

Rodriguez Gets Peppermint Account

Leman & Gerber, Bremen, Ind., peppermint oil, etc., has appointed J. H. Rodriguez Co., New York, as selling agents in the metropolitan territory.

Fritzsche Solvents Odors

Fritzsche Bros., Inc., New York, has announced development of two new products for improvement of technical solvents and a variety of finished articles with which objectionable odors usually are associated. These products have been designated as "Neutroleum Alpha" and "Neutroleum Gamma."

New Alcohol Distiller

Springfield Commercial Alcohol Co. has been incorporated in Salt Lake City, with capital of $150,000. The company is taking over the assets of the defunct Utah Industrial Alcohol Co. and plans to start operations at once. Officers are president, Willard T. Cannon; vice-president, B. R. Smoot; secretary, W. T. Pyper; treasurer, W. Bert Robinson. The officers are also associated with the Utah-Idaho Sugar Co.

Vadsco Distributes Conrad Blade

Vadsco Sales Corp., New York, has been appointed exclusive sales agent for the Conrad Razor Blade Co., Long Island City.

Will Finance English Plants

Brown, Anderson & Loeb, Inc., New York, announces that manufacturers desirous of establishing plants in England may obtain a factory and necessary capital through this organization's banking connections abroad. The only condition upon this is that the manufacturer must have a product which is now sold and regarded favorably upon the British Isles.

McNeil Appoints Heaton

McNeil Laboratories, Philadelphia, has appointed D. H. Heaton as representative in Washington, Oregon, California and Arizona.

Block Drug Distributes Sinaseptic

Block Drug Co., Brooklyn, has taken over exclusive distribution in the United States of "Sinaseptic."

Muhlens Buys English Plant

Ferd. Muhlens, Inc., "4711," has acquired a factory at Slough, Buckinghamshire, England, in which it will manufacture all products designed for distribution and sale in the British Isles.

Florasynth Gets Citrus Account

Florasynth Laboratories, Inc., New York, has been appointed sales representative in the United States for citrus oils manufactured by Fratelli Barbagallo di Mauro, Fiumefreddo, Sicily.

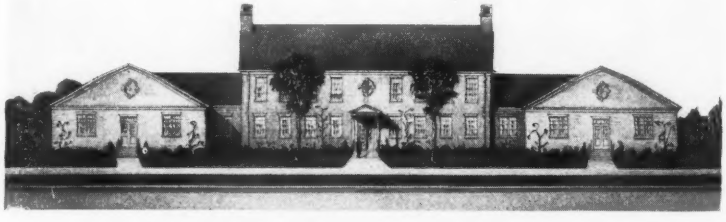
Don Baxter Plant

Don Baxter, Inc., Glendale, Calif., has just completed installation of equipment in its new plant in that city.

Chain Store Facts

The operating results of drug chains in 1929 is the subject of a bulletin just issued by the Bureau of Business Research, Harvard Business School.

This study of chain drug organizations in 1929 covered the experience of fifty-six chains, which operated 1,603 stores, and had total sales of more than $186,600,000. For the purpose of this study a chain was



Proposed Merck & Co. Research Laboratory

Pure Medicinal Chemicals

Ammonium Chloride U.S.P.
Ammonium Sulphate Purified

Iron Citrate U.S.P.
Iron & Ammonium Citrate U.S.P. Brown Scales
Iron & Ammonium Citrate U.S.P. Brown Pearls
Iron & Ammonium Citrate Green Scales
Iron & Ammonium Citrate Green Pearls
Iron Sulphate (Ferrous) U.S.P. Crystal

Oxyquinoline Citrate
Oxyquinoline Sulphate

Sodium Carbonate C.P. Anhydrous
Sodium Chloride C.P.
Sodium Phosphate Dibasic U.S.P. Anhydrous
Sodium Phosphate U.S.P. Granular
Sodium Sulphate Anhydrous Purified
Sodium Citrate U.S.P. X Granular

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LEXINOL

(LEXINOL is highly refined Vegetable LECITHIN especially adapted for the cosmetic industries.) . . . .*

● Intensifies SOFTENING and PENETRATION

● BLENDS and EMULSIFIES

● Inhibits Fat-Oxidation and Hydrolysis

**LECITHIN is a substance of primary physiological importance, NATURALLY PRESENT in every living cell, and playing a vital part in the life processes.*

Send for a SAMPLE and learn how LEXINOL can benefit your creams—direct from Lecithin Headquarters of America!

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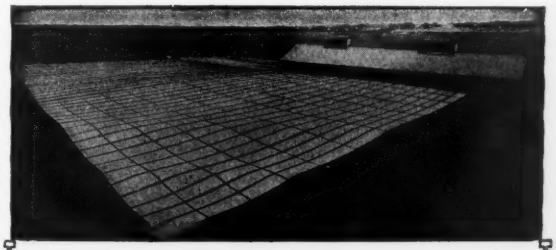

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Glycerine—Ceresine
Spermaceti

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Syracuse, N. Y.

MYSORE GOVERNMENT Sandalwood Oil

Distilled from
Santalum Album

INSIST ON ORIGINAL CANS AND CASES

Agents for the United States and Canada

W. J. BUSH & CO.
(Incorporated)
Essential Oils
New York
Chicago National City Calif. Montreal

defined as any organization having three stores or more.

The sales of the fifty-six firms amounted to approximately 50 per cent of the total sales of all similar firms in the United States. Chain drug stores handled about 18.5 per cent. of the total retail drug business.

The cost of goods sold, after adding inward transportation charges and deducting discounts, according to the report, amounted to 66.1c for each dollar of sales. Gross margin, therefore, was 33.9c per dollar of sales.

Total expense, including interest, as a rule took 32.8c of every sales dollar, leaving as net profit 1.1c (1.1 per cent. of sales). Net gain, after crediting back interest charged on owned capital used in the business and after credited other income, commonly amounted to 4 per cent. of net sales, or 13 per cent. of net worth. The common figure for rate of stock-turn was 3.9 (times annually).

Of the fifty-six firms thirty-five (63 per cent.) earned some net profit and forty-seven (84 per cent.) earned some net gain. It may be noted that the fourteen most profitable firms on the average earned 5.4 per cent. net profit on net sales 26 per cent. net gain on net worth.

F. W. D. A. Purchasing in N. Y.

Federal Wholesale Drug Association has opened a purchasing bureau at 200 Fifth ave., New York.

Booklets

EMULSIONS

Carbide & Carbon Chemicals Corp., New York, has just published a 55-page booklet entitled, "Emulsions." This is of particular interest to manufacturers of cosmetics and pharmaceuticals in its description of the use of triethanolamine in the preparation of various creams and ointments. Copies will be furnished upon request.

HERCULES POWDER PRODUCTS

Hercules Powder Co., Wilmington, Del., has published a beautifully-illustrated 34-page booklet describing the experiment station and research laboratories of the company together with the products which have been developed.

IODINE SOLUTIONS

Iodine Educational Bureau, New York, is distributing a booklet by Charles H. La Wall and Linwood F. Tice, entitled "A Pharmaceutical Study of Iodine Solutions for Antiseptics."

POPPER & KLEIN

Popper & Klein, New York, ampules and hypodermic needles, has just published two new circulars on these products which are being distributed to pharmaceutical manufacturers, wholesale druggists and surgical supply houses. Copies may be obtained upon request.

A. M. A. Accepts

CUTTER TOXIN

Diphtheria Toxin-Antitoxin Mixture (N. N. R., 1931, p. 361) manufactured by Cutter Laboratory, Berkeley, Calif.

NATIONAL DIPHTHERIA TEST

Diphtheria Immunity Test (N. N. R., 1931, p. 383) manufactured by National Drug Co., Philadelphia.

LEDERLE LIVER EXTRACT

Lederle Solution Liver Extract Parenteral *Refined and Concentrated*, manufactured by Lederle Laboratories, Inc., Pearl River, N. Y.

CHAPPEL LIVER EXTRACT

Chappel Liver Extract (Oral), manufactured by Chappel Bros., Inc., Rockford, Ill.

GILLILAND DIPHTHERIA TEST

Diphtheria Immunity Test and Diphtheria Toxoid, both manufactured by Gilliland Laboratories, Inc., Marietta, Pa.

NATIONAL TUBERCULIN-KOCH

Tuberculin-Koch (N. N. R., 1931, p. 364) manufactured by National Drug Co., Philadelphia.

WALCO ETHYLENE

Walco Ethylene for Anesthesia, manufactured by Wall Chemicals, Inc., Detroit.

A. M. A. Rejects

P. D. CACODYLATE

Ampules Sodium Cacodylate, for Intravenous Use, manufactured by Parke, Davis & Co., Detroit, because the Council continues to hold that the routine intravenous administration of drugs is undesirable because of the complications that are inherent when this method of administration is used and because a false value of the administration of drugs by this route is likely to be conveyed. It has become convinced that the inclusion of sodium cacodylate ampules definitely proposed for intravenous use is likely to be taken to mean that in the opinion of the Council the intravenous use of sodium cacodylate is rational. Therefore, the Council has omitted Ampoules Sodium Cacodylate, for Intravenous Use (P. D. & Co.), even though the firm is making no claims which invite such use.

A. D. A. Rejects

SEDORMID

Sedormid, manufactured by Hoffmann-LaRoche, Nutley, N. J., because it is a compound marketed prematurely with unwarranted therapeutic claims, under a therapeutically suggestive name, and tests for the identity and purity of the product have not been furnished. The Council stands ready to consider Sedormid for A. D. R. when the objections listed in this report have been removed.

DENTINOL

Dentinol, manufactured by Dentinol & Pyrozide Co., New York, because a quantitative statement of composition does not appear on the label; because unwarranted and misleading therapeutic claims are made, and because it represents an unscientific mixture, and thus is inimical to the best interests of the profession and the public.

PYROZIDE

Pyrozide, manufactured by Dentinol & Pyrozide Co., New York, because it is a dentifrice which is advertised in a therapeutically suggestive manner and thus runs contrary to the provisions of the Council for the admittance of dentifrices to the list of accepted dental remedies, and because it is compounded with Dentinol, an unnecessarily complex "shotgun" preparation, which is not acceptable.

SODIBOR

Sodibor, manufactured by Sodibor Laboratories, White Plains, New York, because it is an unessential modification of a well-known official drug marketed under a nondescriptive name in such a manner as to induce self-treatment for serious dental conditions; because a statement of the phenol content does not appear on the label, and the firm is not entitled to a proprietary name for an unessential modification of sodium perborate.

CHARCOAL DENTAL CREAM

Kramer's Original Charcoal Dental Cream, manufactured by Modern Products, because it is a dentifrice intended for daily use that contains charcoal, a potentially harmful substance.

New Products

INTRAVENOUS PRODUCTS

Intravenous Products Co., New York, is marketing three new products in the "Endo" series—"Endogen A," "G" and "U"—recommended for arthritis, gonorrhea, and peptic ulcer.

JEANNE MAURAY

Howell Co., Inc., New Orleans, has introduced a new line of cosmetics under the name, "Jeanne Mauray."

RE-NAITRE

Compagnie Re-Naitre, New York, is introducing a new cream under the name "Re-Naitre."

NOBILITEE

Milson Co., Cincinnati, is introducing a complete line of cosmetics called "Nobilitee."

TONIKUM-ROCHE

Hoffmann-LaRoche, Inc., Nutley, N. J., has added a new product to its line, "Tonikum-Roche," recommended for the stimulation of metabolic activities.

PABUTOLE

Sharp & Dohme, Philadelphia, has introduced a new product, "Pabutole," a tonic and food adjunct containing the essential dietary factors—Vitamins A, B,

HUISKING

SANTONINE, U. S. P.

Acid Citric
Bay Rum
Camphor
Chalk Precip. U. S. P.
Cinchona Bark Quills
Cocoa Butter, U. S P.
Copper Sulphate
Ephedrine
Haarlem Oil--
"Klaas Tilly"
Kamala
Lithol
Magnesia Carb.
U. S. P. Blocks
Manna
Mannite
Menthol
Psyllium Seed
Quicksilver, Virgin
Quinine Bisulphate
and Sulphate
Saffron, American
Spanish
Sal Ammoniac, Lump
Sulfur, Precip. U. S. P.
Thymol
Witch Hazel
Zinc Oxide, Hubbuck's

COD LIVER OIL

PEDER DEVOLD BRAND
(Trade Mark Registered)
Highest Grade Medicinal
Practically free of odor and taste.
Richest in Natural Vitamins.

CHAS. L. HUISKING & CO., Inc.
155 Varick Street New York City

A BEAUTIFUL TISSUE CREAM

Can Now Be Made Easily and Quickly By This New Method

Manufacturers of all-purpose creams, cold creams, tissue creams and ointments, are now assured of the finest quality product through the use of PROTEGIN X, a new compound developed in our laboratories. This material contains the only active and important ingredient of lanolin, and thus gives all of lanolin's benefits with none of its objectionable features. PROTEGIN X is absolutely odorless, rancidity does not occur, and perfumes are unaffected by it. It has a great affinity for water, while at the same time is itself absorbed by the skin. Write for our instructive booklet which describes PROTEGIN X and contains successful formulae for making the finest quality cosmetic creams and ointments.

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Neocinchophen N. N. R.
ANTISEPTICS
Acriflavine Hydrochloride N. N. R.
Acriflavine Neutral N. N. R.
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Phenobarbital U. S. P.
Phenobarbital Sodium N. N. R.
Barbital U. S. P.
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ABBOTT LABORATORIES
NORTH CHICAGO, ILLINOIS

D. E, traces of C, carbohydrates, proteins, fats and mineral salts.

JUNGLE FLY

Hewitt Laboratories, Inc., New York, has announced "Jungle Fly," a new fly "dope," to be distributed by Schieffelin & Co.

DASCO

"Dasco," a shaving cream, is being introduced in New York with a combination deal in Schulte stores by which a tube is given free with a 15-cent package of cigarettes.

PROTEK

Meed Co. is presenting a new dentifrice powder, "Protek."

X-PEL

X-Pel Process Co. is marketing a new deodorant, "X-Pel."

ZONITE SUPPOSITORIES

Zonite Products Corp., New York, is marketing "Zonite" vaginal suppositories, hygienically sealed within individual vials.

BILIPOSOL

Ulmer Laboratories are marketing "Biliposol," a lipoid soluble bismuth preparation for intramuscular injection in treating syphilis.

PHANTOM KOTEX

Kotex Co., Chicago, will introduce a new product, "Phantom Kotex," on June 1. "Phantom Kotex" is protected by U. S. Patent No. 1,857,854, which is said to be the first patent of any consequence ever secured on a sanitary napkin.

Removals

ALLOY PRODUCTS CO.

Alloy Products Corp., equipment of stainless steel and other alloys, formerly located at Milwaukee, has announced its removal to its new plant at Waukesha, Wisconsin.

ARIDOR CO.

Aridor Co., Chicago, announces removal of its New York offices to 92 Liberty st., that city. Telephone Rector 2-7538. Alan S. Williams is Eastern representative.

BRIDGES, NEUMER & CO.

Bridges, Neumer & Co., New York, menthol, has moved its offices to 60 Wall Tower.

L. H. BRODRICK

L. H. Brodrick, New York representative, W. C. Ritchie & Co., Chicago, Bond Manufacturing Co., Wilmington, has moved to 500 Fifth ave., New York.

W. J. BUSH & CO.

W. J. Bush & Co., Inc., New York, has moved to more convenient quarters on the ninth floor at 11 E. 38 st., that city. Telephone Ashland 4-2937.

CARR-LOWREY

Carr-Lowrey Glass Co., Baltimore, announces removal of its New York offices to 500 Fifth ave., that city. Telephone Chickering 4-0592.

WILLIAM H. GREEN

William H. Green, New York representative for Addison Lithographing Co., Rochester, and Tin Decorating Co., Baltimore, has moved to 500 Fifth ave., New York.

TH. GOLDSCHMIDT

Th. Goldschmidt Corp., New York, has announced its removal to larger quarters at 70 Pine st., that city. Telephone Bowling Green 9-6335.

S. SCHWABACHER & CO.

S. Schwabacher & Co., Inc., New York, announces removal of its office to 59 Pearl st., that city.

WATERBURY PAPER BOX CO.

Waterbury Paper Box Co., Waterbury, Conn., announces removal of its New York offices to larger quarters at 100 E. 42 st., that city.

Industry's Advertising Greater

Although advertising expenditures by the drug industry showed recessions for April in both national magazines and national farm magazines, the March total for radio broadcast advertising over national networks, which has just become available, not only represented an increase of 118.8 per cent. over last year, but also passed the million dollar mark for the first time. The food industry, which during February spent more than a million dollars vending its wares via the ether, is the only other industry which has spent more than a million dollars during any one month for this purpose, according to Dorrance, Sullivan & Co., New York.

The April national magazine expenditure was $2,875,649, a drop of 17.9 per cent. from last year's total of $3,503,597. Of this $2,020,197 went for beauty preparations and toilet goods, while $855,152 went for medical and proprietary items. Farm magazines fell 8.9 per cent. from $56,199 to $51,209. The total for national and farm magazines was $2,926,858, off 17.8 per cent. This brought the total for both to $10,151,175 for the first four months of the year, 14.7 per cent. behind the figure of $11,897,068 registered for the same period a year ago.

The radio appropriation in March was $1,017,607, as compared with $464,959 last year. This brought the March total out of the red for the combined expenditure in magazines and radio, which amounted to $4,124,092, ahead 5.7 per cent. The radio figure for the first quarter was $2,787,427, an increase of 107.5 per cent, and the total for all three media (national magazines, farm magazines and radio) was $10,011,744, an increase of 34. per cent. over the figure of $9,680,333 for the first quarter of 1931.

Financial

Industry's Stock at New Low

Prices of common stocks of drugs and cosmetics companies dropped to a low for the year in the week ended April 13, according to the stock price indexes of the Standard Statistics Co., New York, and over the rest of the month showed some improvement. This is contrary to the trend shown by 351 miscellaneous industrials which reached a new low in the week ending May 4. Detailed figures covering both indexes are given below:

	Drugs and cosmetics	*351 Industrials*
Apr. 6	72.4	44.3
13	57.4	40.4
20	63.1	40.4
27	66.1	41.8
May 4	62.2	38.6
1932 High	88.3	57.2
Low	57.4	38.6
1931 High	133.8	114.7
Low	82.	51.4

Earnings and Dividends

AMERICAN HOME PRODUCTS

American Home Products quarter ended March 31: Net profit after taxes and charges, $886,091, equivalent to $1.45 a share on 611,000 no par capital shares; sales, $4,632,000. Earnings for first quarter were not reported last year.

American Home Products Corp. in its annual report for year ending Dec. 31, 1931, reported net profits of $3,374,910, equal to $5.52 per share of issued stock, as compared with profits for the previous year of $3,361,005, which were equal to $5.50 per share.

In his letter to stockholders, T. E. Caruso, president, stated that: "The regular monthly dividend of thirty-five cents per share was continued throughout the year. Net profits for the year in excess of this dividend requirement and other surplus charges amounted to $753,911.54, which amount has been retained in surplus. This has increased our surplus balance to $5,297,003.29. "The acquisitions during the past year were the formulae and trade-rights of Saltrates Inc., manufacturers of proprietaries, and the business of John Wyeth and Brother, Inc., Philadelphia. The above properties were acquired for cash without increasing our issued capital stock. Their earnings have been included only from the date of acquisition.

"During the year we made substantial additions and improvements to plant and equipment. We completely remodeled the manufacturing plants of John Wyeth and Brother, and installed new manufacturing, laboratory and research equipment. These increased facilities, together with an augmented technical and research staff, enabled the company to add to its already important pharmaceutical line more than one hundred and seventy new products.

"In Chicago we constructed a new plant known as "The Petrolagar Medical

(*Continued on page 480*)

Drug Markets

Review of conditions affecting markets and prices of chemicals, aromatics, essential oils, flavors, crude drugs and other raw materials, together with an alphabetical list of market prices.

Section also contains condensed review of patents and abstracts of particular interest to the chemist and those in charge of technical control.

Mercury at New Low

The mercury market is featured by a further decline. This commodity is now offered on spot at from $68.00 to $69.00 per flask as to quantity. This trend, as previously predicted, is the result of increased production and the generally small demand in the current market.

It is roughly estimated that there are now about from 20 to 30 mines operating in the United States. The smaller mines resumed operations when the price of mercury went above $70.00 per flask recently. It is true that the mercury produced by these mines reentering the field at short notice has not as yet appeared on the spot market but the fact that they are again in production has had its statistical effect. It is said that a further decline during the next two months is not unlikely due to the fact that this metal will then actually be offered for sale.

However, it is to be pointed out that these small producers have again lost their market and it is not unlikely that if further declines do take place they will become permanently discouraged or at least abandon the mines for a longer period of time. Should this happen the only thing that would prevent a much higher price situation next fall would be the attitude taken by the foreign producers. It is said to be not unlikely that mercury will be imported before the cold weather again reaches us. The import price is now on the basis of $76.00 duty paid.

Preliminary figures covering the quicksilver output in 1931 indicate that approximately 24,750 flasks valued at $2,162,000 was produced. These figures represent an increase of 15 per cent. in quantity but a decrease of 13 per cent in value, from the 21,553 flasks valued at $2,478,789 produced in 1930. Production in California in 1931 amounted to 13,300 flasks, 54 per cent. of the Country's total, and 16 per cent. larger than the output in 1930. Imports were only 356 flasks in 1931 as compared to 2,943 flasks in 1930, and 14,292 flasks in 1929.

Alcohol Market Steady

The denatured alcohol market is in a routine position with demand confined mostly to the special formulae. Total movement of stocks into consuming channels was of a conservative nature during the past month.

Prices, as far as producers were concerned, are steady on the basis of the recently announced second quarterly schedule. Jobbers, however, are reported to be in possession of considerable carryover stocks and this material has been offered at attractive prices. This carryover material is more in evidence this year due to the abnormal weather experienced throughout the East last winter and will probably be a factor in the next antifreeze selling season that distillers will encounter.

Bismuth Lower

Although bismuth metal is lower at 90c per pound, the reduction of 10c per pound in the price of bismuth preparations is attributed entirely to the competitive condition that has arisen among leading sellers. Subcarbonate is now offered at from $1.25 to $1.30 per pound as to quantity, with subcarbonate for X-ray selling at from $2.20 to $2.27 per pound. Subgallate is listed at from $1.35 to $1.40, subnitrate $1.10 and $1.15, and subsalicylate from $2.15 to $2.20 per pound respectively.

Mercurials Decline

The lower cost of raw material, together with the competitive factor, has worked the mercurial group toward lower levels. The major group is now quoted on the following basis:

Calomel U. S. P.	$1.43 per pound
Corrosive Sublimate U.S.P.	
Granular & Powd.	.87 " "
Crystals	1.02 " "
Mercury Oxide Red.	1.54 " "

This represents a decline of 8c per pound for calomel and 6c per pound for corrosive sublimate. No change is noted in the minor salts, although there are rumors current about the trade to the effect that some revision may be witnessed in this group.

Tartaric Acid Shaded

Competition among domestic producers of tartaric acid has resulted in a further decline of ½c per pound and is now quoted on the basis of from 24c to 24½c per pound as to quantity. This decline was put into effect despite the fair demand for this product and is an indication of the competitive condition that has prevailed for a long time in this commodity.

The imported material has also played its part in this competition as importers are offering material here at from 23¾c to 24c a pound with the possibility of shading these quotations on a desirable order.

Cream of Tartar Down

The recent decline in the price of tartaric acid was reflected in the quotations for cream of tartar. Domestic producers are quoting 18¾c to 19c per pound. Imported material is available on spot at from 18½c to 18¾c per pound.

Silver Nitrate at New Low

A further reduction in the price of silver nitrate is noted in the spot market, this commodity now being offered at from 22c to 23c per oz. and represents the low price reached during the movement. Demand is fair, the lower prices being largely attributed to the downward tendency of the metal.

Menthol Weaker

The market for Japanese menthol has, during the past month, again been subject to severe competition. Although first cost of the material would not indicate the possibility of shading, the spot market is so devoid of actual business that prices have been reduced sharply. Open quotations are now on the basis of from $2.75 per pound in case lots to $2.95 per pound for quantities in less than case lots.

It is said that these attractive prices have not induced the larger consumers to enter the market with the result that the material is still in supply.

Synthetic menthol has been affected by the low cost of the natural product. The decline in this product represents 5c per pound to the basis of from $2.60 to $2.85 per pound as to quantity.

Iodine Price Cut

Resublimed iodine has been reduced 10c per pound by leading producers here. This commodity is now offered on the basis of $3.65 per pound on the basis of not less than 5 pounds. Lesser quantities are offered at $3.70 per pound. The decline was brought about, it was said, by the desire of producers to bring this commodity in line with the other iodine products.

Seidlitz Mixture Easy

Seidlitz mixture continues easy and competitive. A decline of ½c per pound was put into effect during the past month with this item now selling at from 12½c to 13c per pound as to quantity. This movement was primarily the result of the weakness in tartar products.

Rochelle Salt Down

Rochelle Salt declined 1c per pound during the past month to the basis of from 15c to 15½c per pound as to quantity. This move reflected the recent cut of ½c per pound in the price of tartaric acid. The type of competition current in the raw material was also experienced in Rochelle Salt.

Aloin Competitive

The market for aloin is in a particularly competitive condition. Prices are lower although a wider variance in quotations is noticed. The spot market is on the basis of from $1.00 to $1.10 per pound. Business done made a fair volume but inquiries have not been numerous.

Tartar Emetic Steadier

Tartar emetic is steadier after the recent decline. Price is now on the basis of from 28c to 30c per pound for U. S. P. the decline representing 1c per pound. Demand has not improved to any great extent at the lower price level but the tendency to shade from the new level is not in evidence.

Santonin Declines

Competition in santonin was reported as keen but leading sellers were endeavoring to stabilize the market on the basis of present quotations. The spot market in quantity is $85.00 per pound, with $93.00 being asked in a small way.

News from abroad indicated some unsettlement in the London market, prices having declined under competition. On the basis of the current rate of exchange quotations in London were equal to $73.20 per pound.

Agar Weakens Further

The weakness expressed in agar agar during the past several months continues with further reductions being instituted. Number 1 grade is now offered at from 67c to 70c per pound, with the number 2 grade selling at from 62c to 65c per pound. The rather sharp increase in importations of late has been rather more than the current spot demand would warrant so that stocks seem to be in at least temporary supply.

Glycerin Unchanged

Prices for C. P. glycerin remain unchanged and without special feature. By reason, however, of the continued weakness in crude material the general tone of the market presented an easy appearance.

Cod Liver Oil Weakens

The spot market for cod liver oil continues to show weakness reflecting the results of the highly satisfactory fishing in Norway this season and the not very active demand here. Quotations are on the basis of from $18.00 to $20.00 per barrel as to quantity and brand, with reports that some brands were being offered at as low as $17.00 per barrel.

Production in Norway so far this year is said to exceed that in any year since 1930. Fishing in Lofoten has just about been completed and operations have now shifted to the Finmarken area. The fishing returns up to April 25 give the catch of cod at 138,600 tons, against 108,274 tons last year and 177,770 in 1930. Oil production was 84,697 hectoliters, in contrast to 52,885 hectoliters for 1931 and 74,331 hectoliters for 1930.

Camphor Still Unsettled

Camphor continues to be unsettled and competitive, primarily because of oversupply and the rather small demand. Larger importations so far this year have increased the number of holders of the material which resulted in the sharp competitive condition displayed on spot. The decline during the past month places open quotations on the following basis: Japanese refined slabs 43c to 44c per pound; refined powder 43c to 44c per pound; ½ oz. tablets 50c to 52c per pound.

Imports of natural crude camphor into the United States increased from 220,900 pounds valued at $84,300 during the first quarter of 1931 to 609,800 pounds valued at $186,200 in the corresponding period this year. Imports of natural refined camphor gained from 263,700 pounds worth $127,300 to 531,300 pounds valued at $201,000 in the aforementioned periods respectively. Synthetic camphor suffered a drop from 616,500 pounds worth $205 500 to 500,200 pounds valued at $135,500.

Cantharides Up Again

Russian cantharides have again advanced. Because of almost total absence of Russian flies the spot market has been put up to the basis of from $1.50 to $1.90 for whole and $1.65 to $2.00 for the powdered.

The scarcity of the Russian grades had increased the demand for Chinese and the latter had also assured a stronger position. Recently, however, several new arrivals of Chinese cantharides have eased the situation somewhat so that no further advances were noted. Demand has not changed much being mostly for limited quantities.

Mineral Oil Down

Russian mineral oil prices show a decline during the past month. This development was generally expected in view of the recently instituted duty on this commodity. The foreign producers have made a first effort to equalize to a certain extent the imposition of this duty. The new schedule of prices are as follows:

80-85 vis	$ .55-$ .60	per	gallon
145-155 vis	.78- .85	"	"
180-185 vis	.83- .88	"	"
320-330 vis	.85- .90	"	"

Domestic oils are without new feature. Exports from the United States showed a dropping off in January and February. Their total value for the two months was $31,008, compared with $40,971 in the same period of 1931.

Clove Oil Down

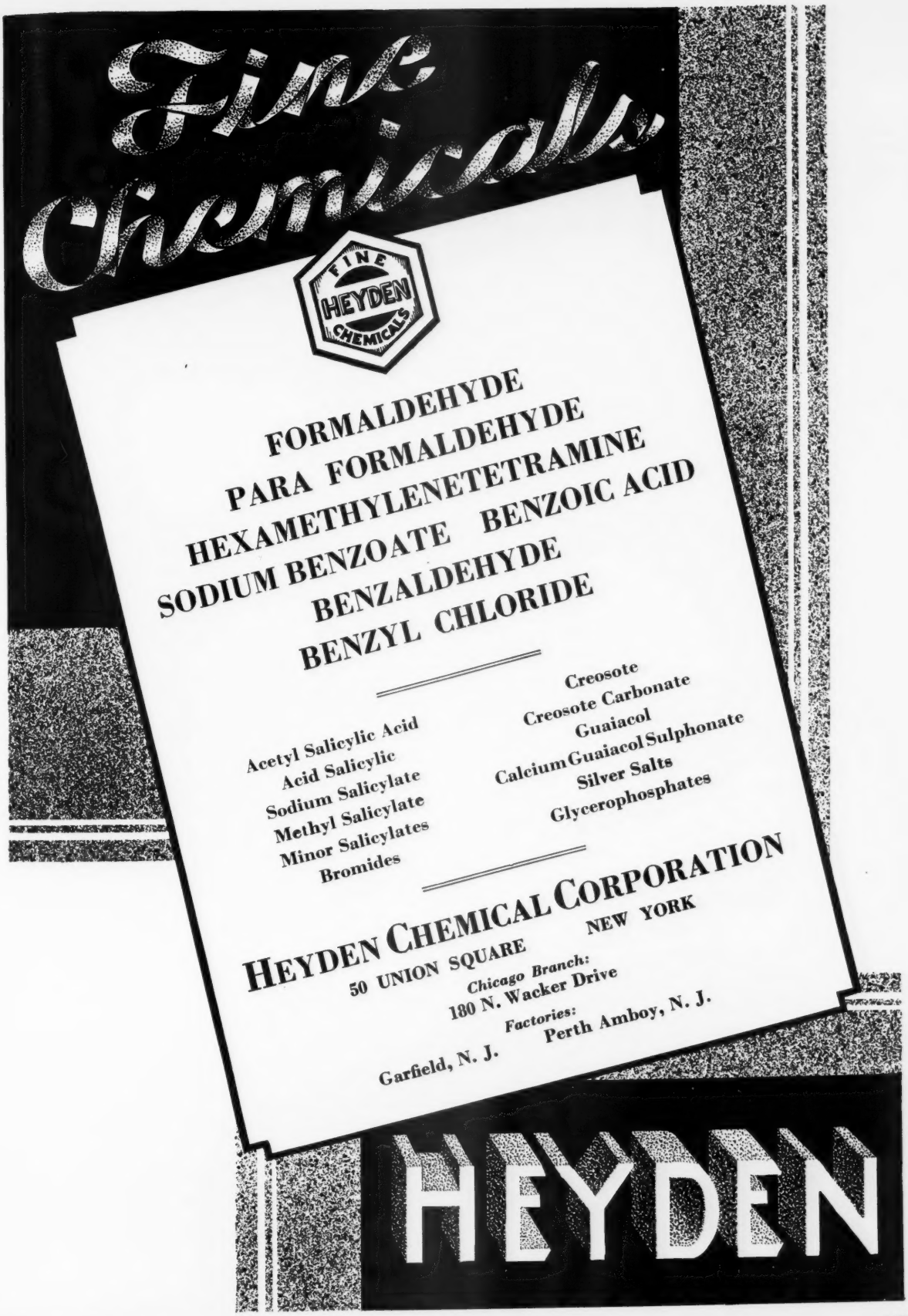
Clove oil experienced a decline during the past month, now being offered at from 90c to 95c per pound. This is the lowest price at which this item has sold for some time. The reduction was influenced by the favorable prices recently established for raw material.

Anise Oil Down

Oil anise has again declined and is now being offered at prices as low as have ever been reached. With demand comparatively light recent sales have been made at from 36c to 38c per pound for U. S. P. oil and from 32c to 34c for the technical grade.

Citronella Reduced

Ceylon citronella has been reduced on spot being offered at from 30c to 32c per pound in drums. Java is also lower at from 48c to 50c per pound. Seasonable demand has been very slow in getting under way this year. Reports from the Far East stated moderate sized quantities of oil were available for later shipment but little prompt goods were available.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Grasse Lavender Moving Well

By O. C. Zilisch

THE May rose will appear a little later than is usual in the Grasse region, according to all indications, due to the cold weather reigning up to a comparatively short time ago. During the month of January the weather was excellent, with temperature that was almost summer-like. People were bathing in Nice and enjoying winter sports in the mountains, only an hour and a half away. However, the weather that followed in February, March and April was anything but warm. Frost was on the ground as late as the fifteenth of April, with almost winter temperature. This, naturally, tended to slow up the cultures of this season, of which the most important is the May rose. No real damage was done, but for a time the growers were uneasy.

Rose Prices Not Fixed

Prices for the May rose have not been fixed, as yet, but, and as reported last month, they are expected to go below those of other years by quite a margin, with the result that the growers are upset. The crisis continues to exist, and no one knows just where it is all headed for. Meetings of the local business associations have recently been dedicated to the consideration of general conditions existing throughout the region. The situation is not brilliant, although one must be fair to say that the crisis is not the subject of conversation like it is in the North, in cities like Paris.

Bad accounts are bothering many of the distilling perfumers, and frozen assets are becoming a fact in France just like they have become in other parts of the world. Nothing is moving, practically speaking, and everyone is treading water. The law profession and the business courts are working over time. This is not meant to be pessimistic, but the situation that is existing at present is not bright by any means.

Growers of cultures like the May rose have veered around completely and are today raising vegetables with a vengeance. In fact, the statement today is: "Back to the vegetables," because they at least allow the farmer growing them to live, if the worst makes its appearance. No one holds any illusions as to what can be done, and all are glad to live for today, letting tomorrow take care of itself.

The orange flower crop of this year is expected to be a large one, with consequent low prices of orange flower products. This may be a little early to predict, but those in a position to speak for the region say that never will the orange flower see as low a price as this year. In consequence, the people dealing in products like orange flower tea are preparing to put away a large part of the stock. Of course, these prognostications may be thoroughly upset by what follows, but the indications are all in favor of a bumper crop. The trees seem in excellent condition, on the whole, with comparatively few touched by the cold spells. After all, the cold spells were not unduly severe, but steady, and this the orange tree can stand.

Lavender oil has been moving into consumption fairly well recently, as was expected, although the truth must be told to the effect that there are still fairly large stocks being held over. Some of these stocks are being held by those in hopes that the market will move more favorably soon. Prices at the distillers in the mountains, the farmers who raise their own lavender on the sun-blessed slopes of Southern France, run anywhere between 90 and 120 francs ($3.60 and $4.80) per kilogram, taken on the spot. The oils run anywhere from 35% to 46% in esters, depending upon the region involved. Certain small stocks, running from six to thirty kilograms, are being held throughout the mountain regions of Provence, and those holding them will not let them go unless they get their price.

Lavandin Best Seller

The best seller, however, is lavandin, by far, which is a cross between true lavender and spike lavender. Stocks of this are gradually diminishing, with some of the holders of these stocks not willing to part with them except at a price. Only a few weeks ago the best lavandin, titrating about 20, or between 18 and 24, could be purchased at 40 francs per kilograms. Today the price is 45 to 55 francs per kilogram, taken at the distiller's place of business in the mountains. Stocks running up to two hundred or more kilograms of lavandin are being held over against an expected rise in price.

Lavender is being destroyed, that is the plants, in many sections of Provence, and lavandin planted. The tufts of this latter plant are much larger, and the results from a business point of view are much better for the grower than those achieved in growing lavender. Distilling perfumers from the Grasse region are said to be large purchasers of lavandin, and one grower of lavender stated that it no longer pays to raise lavender, due to the extreme popularity of lavandin. Apparently some American buyers are making their appearance on the market, and one in particular, who recently sent out questionnaires to producers of lavender in France, asking all kinds of questions. These questionnaires, in many instances, received no response, because the growers and distillers in France are very wary of anything coming from overseas in that guise.

At the lavender fair held in Digne, the matter of lavandin was gone into very seriously, and this next season will, no doubt, see a distinct battle between old-fashioned lavender and its descendant, lavandin. As pointed out by one of the delegates, the business of lavender in France mounts to somewhere between 80,000,000 and 150,000,000 of francs per year, a sliding scale of figures that is nothing compared with the business done in fruits and early spring vegetables in France. However, it was pointed out that this comparatively small figure kept many districts going years ago, whereas today, with the situation as it is, the whole picture has changed. And, as one of the delegates pointed out: "The invention of lavandin and its production is the most disastrous thing that has ever occurred to the growing of lavender."

As La Parfumerie Moderne puts it: "It is certain that lavandin is one of the most economic elements of falsification and the most advantageous." There is no one so naive today who denies that adulteration is carried on, and successfully, with lavandin, as pointed out in several previous reports.

Changing of certain grades of lavender oil has been defended by some on the basis that come countries demand special types of oil, and that unless the Frenchman meets these requirements the business will go elsewhere.

Crimean Lavender?

An interesting development recently is that of the Soviets offering some of the lavender specialists of France to grow lavender in Crimea. Up to the present time the patriotic spirit of these specialists has prevented any development along these lines, but its possibility is being watched with great interest, and even some anxiety, due to the feeling that there may be some one who might succumb to flattering offers.

Jasmine is the thorn in the side of the entire Grasse region, as the trade knows. Just what the developments for this year are going to be is hard to state. Many do not even want to speak about jasmine, although one or two of the distilling perfumers have succeeded in getting rid of substantial quantities of jasmine products. It is still a little too early to give the exact picture of the jasmine situation, but there will, no doubt, be some very interesting things to report as the time approaches for its gathering. Plantations have been destroyed, as was signalled from time to time, and those growers who could

PACK-URGES*

by "Duff" Gordon

Fan Mail

Being a "coluymist" was no new venture for us, but having a public of such package-conscious people is a new stimulating experience. In the numerous replies recently received no less than 44 readers were in doubt as to the particular help and service we have to offer. Editor Brill of Closure News, suggests that we state our case more clearly through Pack-Urges, so briefly, here is our story:

• • •

Sales Talk

We specialize in giving toilet goods products "eye appeal" and act as sales representative for various packaging requirements such as hand-made and set up paper boxes, collapsible tubes, folding cartons, labels and embossed seals, mailing boxes, counter displays and allied lines . . . Our service includes the designing and planning of individual packages or complete lines without charge to our customers . . . Perfumers and Toilet goods houses are offered a complete packaging service under one roof . . . Several exclusive features in Set-Up Paper Boxes, Collapsible Tubes and numerous new ideas of genuine merchandising value all waiting your call . . . See us before Packaging.

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• • •

Page Lou Huntoon!

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The Captive Cap cannot get lost. It builds goodwill for your product and gives you an additional sales point in your advertising. Let us tell you more about it.

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• • •

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do so have abandoned this culture completely. Prices are remaining fairly stationary, with comparatively little movement, generally speaking, into consumption. Practically everyone concerned is hoping for a miracle to make its appearance.

The olive oil situation, as the trade knows, has been a problem for the French. Business in this commodity at the present time is very slow, with few sales. Market remains stationary. At Marseilles the recent quotations were: Bouches-du-Rhône, 740/785; Vaucluse, 675/725. Move ments into export zones from Nice are also without any brilliancy. Everything possible is being done to keep up the olive oil business, and the growers of olive trees are given bonuses, to maintain a live interest in this old business of Southern France.

General business conditions in France are watched carefully by everyone in that country, and all are hoping that the worst has been reached. Unemployment, although prevalent, is not a menace as yet. With the coming of spring and summer, and consequent work in the fields, the unemployment situation has been ameliorated considerably. Certain sections of the country are practically speaking without unemployment, except insofar as the half-time, or quarter-time, workers are concerned. However, the fact remains that these half-time and quarter-time people are working, thus allowing these workers to maintain their self-respect.

Essential Oil Imports

Quantities of essential oils imported during the first two months of 1932 were higher than in the corresponding period of 1931, having aggregated 930,567 pounds, as compared with 773,123 pounds in the 1931 period. Lavender and spike lavender and oil of orange were the only items appearing to have had less import demand. Price declines are reflected in the lower value of the importations, which totaled for the first two months of 1932, $517,132, and for 1931, $651,554. Imports of cassia and cinnamon oil gained from 35,500 pounds worth $32,800 in the 1931 period to 65,700 pounds valued at $34,400 in that of 1932. Citronella and lemon grass imports increased from $128,900 pounds worth $56,000 to 223,100 pounds valued at $77,200.

Tansy oil has shown particular weakness during the past month, price receeding to the levels of from $1.95 to $2.10 per pound. It is said that prospects favor a good size crop being produced at a low cost this year. Holders have therefore taken an easier view of values.

Oil linaloe is down sharply to the basis of $1.40 per pound. This move, it is said, reflects some additions to local supplies bought in Mexico at favorable prices.

Peppermint Oil Steady

Spot quotations on peppermint oil were unchanged from the prevailing lows and the market has not shown any recent tendency to strengthen. The primary market, however, is steady and in some instances seemed to be above the price at which some sellers here were offering the material. These sellers were taking a bearish view of future values.

Prices quoted on new crop peppermint oil for August shipment are about on the same level as those prevailing on oil for immediate delivery from the country. So far weather conditions favor a normal crop but it is too early as yet to make any predictions as to what the market will do between now and the Fall season.

Natural oil is selling spot at from $1.45 to $1.55 per pound, with redistilled being offered at from $1.65 to $1.70 per pound.

American peppermint oil has found a relatively stronger demand abroad at the beginning of 1932, exports during the first two months aggregating 58,000 pounds valued at $95,000, as compared with 34,400 pounds worth $71,700 during the corresponding period of 1931.

Pennyroyal Scarce

European pennyroyal oil is very scarce on spot. Prices have been advanced sharply to the basis of $1.15 per pound, representing an increase of 10c per pound. Some sources have indicated that they would not sell at this price and would demand at least $1.25 per pound.

This is the season at which this oil is in most demand, being used in fly and mosquito sprays. It is becoming increasingly popular by insecticide manufacturers for use in conjunction with citronella oil, being mixed with this product. As this oil is not produced until the Fall, the fact that the largest consuming season comes so late in the season has depleted stocks to the extent that dealers are reluctant to offer the small quantities left unsold.

Domestic pennyroyal oil, on the other hand, has been weak. Prices have been reduced 5c per pound to the basis of from $1.70 to $1.90 per pound as to quality and seller. The probability is that this grade of oil will be produced this year as reduced cost so that the tendency of values has favored buyers.

Oil cedar leaf has declined further to the basis of from 72c to 82c per pound as to quality. Stocks have been replenished by addition supplies coming into this market. It is said that the last crop had been plentiful as more producers were in the field.

Wormseed Oil Continues Down

Oil of wormseed has declined further during the past month and is now offered at from $1.75 to $1.90 per pound. This compares with prices of from $2.05 to $2.20 previously reported. The market was said to be dragging along in routine fashion.

The Department of Commerce reports that American wormseed oil is produced to a certain extent in India, it being said that its botanical source, Chenopodium ambrosioides, occurs as a common weed near Calcutta. The plant also has been successfully cultivated in Assam and other regions. The seeds of the cultivated plant are reported to yield from 17 to 24 per cent. of the oil. While the industry has not attained commercial prominence, its possibilities have attracted local interest.

Geranium Oil Firm

Oil geranium continues very firm on spot, due primarily to the replacement situation. Reports of hurricanes in Reunion persist, a second storm recently being said to have done considerable damage. Prices have again been increased with the Bourbon oil now selling at from $4.00 to $4.75 per pound as to quality. African oil is available at from $4.00 to $4.90 per pound.

It must be said that prospects for a reduced supply of Bourbon oil has not excited buyers unduly. Dealers, on the other hand, are offering the oil cautiously until such time as the situation clearifies. The restricted demand has to a certain extent retarded drastic advances.

Lime Oil Improves

An improved movement is noted in lime oil with the advance into the largest consuming season. Prices proved very steady during the past month with the wide range noted for some time past still in effect. Distilled oil is offered at from $6.25 to $8.00 per pound the range representing the various qualities of oil available. Expressed oil is quoted at from $11 to $12.75 per pound.

The strength displayed in the market for spike lavender oil at the turn of the year, when the underproduction of this oil became generally known, has not been maintained. The price tendency during the past two months has been toward levels below the highs reached during the advance. Ordinary oil is now offered at 48c per pound with the finer grades now available at 68c per pound. The market has failed to hold its advance due to the quite small inquiry in the spot market.

PSYLLIUM

A seed substance . . . .

—of interest to every member of the drug trade

—the properties of which (and most existing information concerning it) are ably discussed by the well-known intestinal specialist, Dr. J. F. Montague, whose hospital is devoted to the special care of these ailments and whose extensive researches on the subject date back to its first clinical use in this country

—whose future is, according to Dr. Montague, enormous and the surface of whose possibilities has only been scratched.

PSYLLIUM SEED: THE LATEST LAXATIVE

A SCIENTIFIC TREATISE

BY

DR. J. F. MONTAGUE

MEDICAL DIRECTOR, MONTAGUE HOSPITAL FOR INTESTINAL AILMENTS; LATE OF UNIVERSITY AND BELLEVUE HOSPITAL MEDICAL COLLEGE; FELLOW AMERICAN MEDICAL ASSOCIATION; FELLOW NEW YORK ACADEMY OF SCIENCES; FELLOW NEW YORK PATHOLOGICAL SOCIETY; SOMETIME FELLOW NEW YORK ACADEMY OF MEDICINE AND AMERICAN COLLEGE OF SURGEONS.

20 *ILLUSTRATIONS*

Montague Hospital for Intestinal Ailments
New York City
1932

PREFACE

My endeavor in this modest monograph is to render available to the inquiring public, both medical and pharmaceutical, the sum total of existing information appertaining to the latest of laxatives; namely, psyllium seed.

The substance to which this book is devoted has, to my mind, great possibilities in the adequate treatment of chronic functional constipation. Whether the raw seed as now used or some refinement thereof will be the final product is something which none can predict with certainty at this time. We may well look to the pharmaceutical profession, which has ever shown itself ingenious in its task of supplying better medicines, for a superior method of utilizing the unquestionable merit of this seed. Until then it behooves us to know our psyllium — in the raw state!

Distressing dearth of material has made the project of writing a treatise thereon a most trying one and this fact I fear must, more than any other, shoulder the responsibility for the admittedly meagre contribution made herewith. Since embarking on the attempt to collect material on the subject I have acquired an abnormally concentrated gaze such as I presume to be exhibited

Drug Markets, Inc.,
101 W. 31 St., New York.

Gentlemen:

Please send me Parcel Post C. O. D.....copies of "Psyllium Seed—The Latest Laxative" (170 pages) by Dr. J. F. Montague of New York City

for which I agree to pay $2.00 net each plus postage.

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Psyllium Seed Stronger

French black psyllium seed is fairly active in the spot market and has taken a turn toward the strong side during the past month. It is not believed that good clean seed could be obtained here for less than 20c per pound. Spot stocks are not large and as the replacement market is in a firm position leading sellers here are inclined to reject business coming in at the old prices.

Consul General John A. Gamon, Marseille, states in "Commerce Reports" that French dealers express the belief that much less psyllium seed has been planted this season owing to lower prices and the fact that the land so utilized is readily adaptable to other crops. Plantings during the spring period, generally between the middle of February and the end of March are considered more productive than the autumn plantings. The extent of future French supplies is uncertain. It has been reported that a considerable extension of the areas planted to psyllium occurred last fall.

A report somewhat contradictory to the above comes forward from our correspondent now in the growing region of France. This report states that the psyllium crop in the Avignon district will, according to all indications at the present time, be a good one. However, the recent movement in this commodity has made the people in the Avignon region very hopeful for the coming season, despite the large crop. It is felt that the French seed, the black psyllium of Provence, is going to hold its own against all newcomers into the field. There is no anxiety whatsoever with respect to the reports about large shipments of seeds from other parts of the world.

After all, the Avignon district is called the Golden Door of France, and the people in that region have all made money, either on psyllium or on the early spring vegetables that are directed from this section to Paris and other large European centers. Psyllium has produced a large part of the Avignon region's income during the past five or six years, and the entire district can easily face the present crisis. Money is plentiful in the region, with the savings mounting every day, and optimism is the rule, rather than the exception, thus contrasting sharply with many other parts of the world right now.

The blond seed is also firmer on spot at from eight cents per pound to as high as 12c per pound, depending upon quantity and quality. The shortage of black seed, it is said, has caused some packers to turn to the blond varieties.

According to a late report received by the Department of Commerce from the Trade Commissioner at Bombay, a heavy rain storm caused serious damage to the Indian plantago seed crop in Palanpur, Sidpur and Oonja. Occurring during the harvest, the disturbance was estimated to have destroyed almost 50 per cent. of the crop. The current crop in Western India is expected to approximate 2,000 tons.

Saffron Quiet

Spanish saffron flowers continue to be neglected the interest in this item being close to nominal. Spot quotations have been reduced to the basis of from $9 to $9.25 per pound as to quantity. Stocks are not large but ample for current requirements. The replacement market is steady.

Assistant Trade Commissioner A. H. Cramer, Barcelona reports that in 1929, 11,018 hectares of land in Spain were under cultivation for saffron and in 1930, 11,282 hectares. The principal producing regions were: Albacete, Teruel, Cuenca, and Valencia. About one-half of the saffron produced is exported annually. In 1929, with a production value of $2,850,000 about $1,579,200 worth was shipped abroad. France was the largest purchaser with nearly $750,000 and Argentine next with purchases valued at $270,000.

Henna Dull

Although a few more inquiries are reaching the market for henna leaves the seasonable increase in call has not materialized to any great extent. Sellers have assumed more of a competitive attitude with the result that quotations were shaded fractionally to the basis of from 7c to 8c per pound. The powdered variety is quoted at from 10c to 12c per pound as to seller.

Henna, both wild and cultivated, is an important plant of Egypt, its exploitation having expanded with increased foreign demand. Exports have reached 1,000 tons in some years.

Chamomiles Higher

The market for Hungarian chamomile flowers is featured by an increase of 1c per pound. Spot quotations are now on the basis of from 15c to 17c per pound.

This development was not unexpected here as the scarcity of stocks both on spot and in the primary market was generally known. There is little likelihood that the spot position can be relieved until such time as a new crop is gathered. Some improvement in inquiry has been noticed.

A very limited quantity of blue malva flowers was found to be available in the spot market. Due to a crop failure there is no possibility of replacing stocks until such time as a new crop can be gathered several months hence. The few holders of goods are therefore asking much higher prices being unwilling to sell at less than from 85c to 90c per pound. Black flowers are very dull at unchanged prices.

Crude Drug Imports

The Department of Commerce reports that imports of crude drugs into the United States were greater in quantity during the first two months of 1932, as compared with the corresponding period of 1931, although the aggregate value was lower. Receipts totaled 8,954,900 pounds valued at $3,482,900, as against 7,572,200 pounds worth $4,170,400 in the 1931 period.

Pyrethrum registered a market gain from 784,200 pounds ($80,000) in January-February, 1931, to 1,898,300 pounds ($209,600) this year. Senna imports expanded also, from 75,400 pounds ($5,200) to 438,200 pounds ($18,000), respectively. Cinchona bark imports gained from 32,400 pounds ($8,900) to 77,300 pounds ($19,900). Licorice root was down from 4,035,600 pounds ($124,500) to 2,860,000 pounds ($56,800).

Lady Slipper Down

Lady slipper root declined sharply during the past month and is now offered at from 30c to 35c per pound. Movement has been so slow as to induce some quarters to offer more liberally with the view of getting more business.

Spearmint Lower

Spearmint leaves have been reduced sharply to the basis of from 18c to 19c per pound. This represents a decline of 4c per pound during the past month. Business has been in a very small way, being characterized as hand to mouth.

Raspberries Dull

Dried raspberries, which showed considerable strength with the close of the year, have eased off due to the dull market and the hand to mouth basis of buying that has prevailed of late. Quotations are down to the basis of from 40c to 45c per pound as to quantity and seller. A more competitive market prevails.

Rhubarb Dull

The strength noted in rhubarb root some months back, when prices advanced sharply due to the difficulty to replace the material, has been diluted by the competitive condition that has arisen in a very dull market. High dried root is now available at from 18c to 19c per pound as to quantity, with powdered root selling at from 23c to 24c per pound. Considerable quantities of poor grade material are said to exist in the market with the result that most buyers purchase only on sample.

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Gum Arabic Easy

Prices on gum arabic remain practically unchanged in the spot market, the only exception being that white gum number 1 was shaded 1c per pound to the basis of from 15c to 17c per pound.

Amber sorts remains unchanged at 6¾c per pound. Competition continues as keen as heretofore but it is said that the present prices are so close to cost of production that it is not likely that further concessions could be made.

Local importers have been buying more freely, with sales in the Sudan being reported on the basis of 28s 6d to 29s for prompt shipment, which is equivalent to approximately 5½c a pound duty paid.

Importations during the first two months of this year have reflected the tendency on the part of dealers here to await further developments in the price situation. The total was 990,000 pounds as compared to 1,482,100 pounds for the same period last year. Stocks here, however, are said to be entirely ample when present consumer requirements are taken into consideration.

Tragacanth Cut Again

The keen competitive condition that has existed in gum tragacanth for some months now has resulted in further reducing prices on the better grades. Number 1 gum is now offered at from 87c to 95c per pound and number 2 is quoted at from 70c to 75c per pound.

Imports during the first two months of this year show a slight increase over importations for the corresponding period of last year. The total of 287,587 pounds compares with 270,565 pounds for the respective periods.

Gum Karaya Steady

All grades of gum karaya remain unchanged from recently established levels. Demand for high quality gum has developed somewhat of late but the lower grades are considered as being but routine.

Imports for the first two months of this year totaled 526,100 pounds as compared to 637,427 pounds for the same period of 1931.

Buchu Firmer

A decidedly firmer tone has developed in buchu leaves. Short leaves are quoted up to 18c and 19c per pound with some factors looking toward a continuance of this strength. It is said that owing to the low prices that have prevailed over the past year producers in the primary market failed to gather very large quantities.

Vanilla Beans Firm

Mexican vanilla beans continue unchanged at the prevailing price of from $3.50 to $4.25 per pound for whole beans. Very little volume buying is being done and what business appears in the market is being taken care of entirely out of the old crop. Leading dealers seem very cautious about placing business for new crop beans as certain important factors are of the opinion that Mexican beans are too high in relation to other grades of beans on the market.

The situation in Mexico, however, is one of potential strength in that the curers are said to have paid high prices for beans again this year. Early crop estimates put production at about 160,000 pounds of whole beans which is a normal production and should be entirely adequate to take care of manufacturing consumers requirements as business is now running. A scarcity of Mexican cuts is said to exist as this grade of bean was reported as underproduced. Certain factors, however, estimated that approximately 30,000 pounds of cuts will be available. Spot prices on cuts are firm at from $2.50 to $2.65 per pound.

Bourbon beans continue in supply at from 90c to $1.35 as to quality and this market is without new feature.

Gum Mastic Firm

Gum mastic stocks are said to be in few and firm hands. This condition is demonstrated by the fact that although the volume of business passing in the item is but fair, prices have turned firmer being up slightly to the basis of from 36¼c to 37c per pound. The market is, under the circumstances, lacking in the competitive element.

Sandarac Higher

Gum sandarac is slightly higher on spot at 23¼c per pound. The situation in this gum is said to be one of potential strength but this has not been supported to any great extent as yet. Considerably higher prices have been predicted by some sellers of this item but the movement toward such a development seems to be very slow.

Coriander seed advanced rather sharply for this commodity under the influence of higher replacement costs. Morocco seed was noted at from 5c to 5½c per pound. The bleached variety was not available below from 7c to 8c per pound as to quantity. The market remained firm at the new levels.

Pink root is generally being offered at from 25c to 27c per pound in the spot market. This is said to be the lowest this commodity has sold at in many years. The poor demand has undermined values.

Civet Shipments

Vice Consul William S. Farrell, Addis Ababa reports that Ethiopia shipped 25,000 ounces of civet worth $37,500 during 1931, a gain of 150 per cent. in quantity over the preceding year. Unit price, however, fell from an average of $3.75 per ounce in 1930 to $1.50 per ounce in 1931. France received the greater part of this commodity in 1931 for perfume manufacture. About one-seventh was destined to the United States, the quantity taken having increased 30 per cent. compared with 1930, or from 2,662 ounces to 3,457 ounces in 1931.

Cananga Oil Easier

The market for oil cananga was easier on reports of more reasonable replacement costs. Quotations for native were down to from $1.35 to $1.50 per pound, with rectified selling at from $1.85 to $1.95 per pound. Competition was keen and sales volume moderate.

Cassia Oil Down

With the replacement market and exchange both favorable to buyers for import, cassia oil was reduced in price to the basis of from 95c to $1.00 per pound. General volume of business done was below normal.

Pine Needle Up

The higher replace cost and fairly active demand for pine needle oil resulted in rather a sharp advance for this commodity. During the past month prices were put up to the basis of from 60c to 65c per pound.

Senega Root Down 2 Cents

Senega root has declined 2c per pound during the past month and is now generally offered at from 29c to 31c per pound as to quantity. New crop season is at hand so that the cost of replacement in the country has been less. Local dealers, however, are not able to point to any improvement in demand at the new levels. It is said that the collection season begins with prices at the lowest basis reached in many years.

Kamala Competitive

Competition in kamala has become keener here and the market has been lowered to the basis of from 35c to 40c per pound. This represents a decline of 5c per pound from previous levels. Demand has been for jobbing quantities only. It is said, however, that not all holders have

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been willing to meet the inside quotation. Some prefer to hold their stocks with the expectation that a more active demand will be witnessed in not a great while.

Pyrethrum Firm

Pyrethrum flowers are firm at unchanged prices. The active consuming season has been rather slow in getting under way. Consumers in the insecticide trade are believed to be poorly supplied and improvement in buying by these people is anticipated.

Pyrethrum registered a market gain in importations during the first two months of this year. January and February showed that 1,898,300 pounds worth $209,600 was brought in. This compares with 784,200 pounds worth $80,000 for the corresponding period of 1931.

Marjoram Up

Quotations on marjoram have been raised ½c per pound to from 12c to 12½c per pound. It is reported that this movement is likely to be extended as the item is now dutiable at 25 per cent. ad valorem. As soon as present stocks have been substantially reduced cost to replace will be more and will undoubtedly be reflected in sales price to manufacturing consumers.

Elm Bark Off

With the principal consuming season for elm bark past the market has eased off 1c per pound to the basis of from 18c to 21c per pound for select bark. Powdered is also down 1c per pound to 15c to 17c per pound. Grinding remains unchanged.

Lambert-Fesler Changes Name

Lambert-Fesler, Inc., St. Louis, "Dew" deodorant, has changed its name to Marion Lambert, Inc.

Crystal Chemical Co. Changes Name

Crystal Chemical Co., New York, drugs and cosmetics, has changed its name to Crystal Corporation.

G. O. Yohe Heads Mayflower Drug

Mayflower Drug Stores, Inc., Pittsburgh, has appointed George O. Yohe, president of the company, succeeding F. W. Walker.

Nusheen Appoints English Distributor

Nusheen, Inc., New York, has appointed Wm. Guy & Sons, London, England, distributor for Europe.

R. L. Watkins Package Changes

Phoenix-Hermetic Co.'s "The Flame" features a story by M. B. MacIntire, of the R. L. Watkins Co., Cleveland, on "Change . . . But Not in Haste," dealing with recent package changes in the company's line.

New Sexual Hormone

The name, hippulin, has been given to new crystallized sexual hormone obtained from urine of mares. Tests show that this is isomer of equilin, of formula, $C_{18}H_{20}O_2$. A. Girard. Comptes rendues, 1932, volume 194, page 1020.

Removals

CHARM PRODUCTS

Charm Products, Inc., Los Angeles, cosmetics, has moved to new quarters at 846 South Broadway, that city.

DAWN SUPERBE CO.

Dawn Superbe Co., Minneapolis, cosmetics, has moved to 1221 N. Washington ave., that city.

PEROXIDE MFG. & SPLTY. CO.

Peroxide Manufacturing & Specialty Co., New York, hair preparations, has moved to the Chrysler building, that city.

CLOW'S COSMETIC

Clow's Corrective Cosmetic Co., Minneapolis, has announced its removal to 4824 S. Upton ave., that city.

Account Changes

Martha Lee Co., St. Louis, cosmetics, to Lake-Spiro-Cohn, Inc., Memphis.

Drug Products Co., Inc., New York, to Lewis-Waetjen Agency, Inc., that city.

Herpicide Co., Detroit, to N. W. Ayer & Son, Inc., that city.

Solon Palmer, New York, cosmetics, to G. Allen Reeder, Inc., that city.

Dermay Laboratories, Cleveland, cosmetics, to Ralph W. Sharp & Associates, that city.

Eton Products, Inc., Newark, N. J., foot cream, to Wm. H. Rankin Co., Inc., New York.

National Toilet Co., Paris, Tenn., cosmetics, to Harvey-Massengale Co., Inc., Atlanta, Ga.

Natural Laboratories, Akron, prophylactic, to Ralph W. Sharp & Associates, Cleveland.

Chamberlain Laboratories, Inc., Des Moines, to Ruthrauff & Ryan, Inc., Chicago.

Commercial Eucalyptus Oils

Bulletin describes general properties and physical and chemical constants of commercial oils from 14 species of eucalyptus. Specifications are given for cineole and piperitone. Methods for examination of oils are given with methods for examination. A. R. Penfold, Technical Mus. Sydney, Bulletin No. 2. Revised Edition.

New Incorporations

Jofre, Inc., Pittsburgh, Pa., drugs, chemicals—Capital Trust Co. of Delaware, $25,000.

Peister Chemical Co., Inc., Fairlawn, N. J.—Joseph H. Muller, New York City, $100,000 preferred and 500 shares common.

The Rumonog Co., Newark, N. J., medicinal tonics—Manuel Hoenig, Newark, 2,500 shares common.

Willard Tablet Co., Wilmington, Del., medicines, drugs, chemicals—Corporation Trust Co., $10,000.

Hanover Chemists, New York City, cosmetics, drugs—Attorneys' Albany Service, 315 Broadway, Albany, N. Y., $1,000.

Jaborg Beauty Culture, cosmetics—A. C. Fach, Stapleton, Staten Island, N. Y., $3,000.

Grip, Inc., Rahway, N. J., medicines—Howard S. Neiman, New York City, 100 shares common.

American Hyalsol Corp., New Canaan, Conn., chemicals—Corporation Trust Co., 10,000 shares common.

Co-Mag-Ol Laboratories, Brooklyn, N. Y., chemicals—A. A. C. Hansen, 67 Wall St., New York City, 200 shares common.

Medicinal Products Co., Inc., of Pennsylvania, Wilmington, Del., patents—Colonial Charter Co., $50,000.

Skin Culture Laboratories, New York City, cosmetics—L. H. Robinson, 475 5th Ave., 50 shares common.

La-Gay Cosmetic Co., Bronx, N. Y.—Waxenbaum, 277 Broadway, New York City, $10,000.

East Rutherford Syringes, Inc., medical syringes and other medical supplies—Burnstine & Geist, New York City, 1,000 shares common.

Al-Green Medicine Co. of New Jersey, Camden, N. J.—Mair H. Auerbach, Camden, $125,000.

Universal Research Laboratories, Inc., East Orange, N. J., scientific research laboratories—New Jersey Registration and Trust Co., East Orange, 2,500 shares common.

Jane Dene Products Corp., Philadelphia, Pa., cosmetics, perfumes—Corporation Guarantee and Trust Co., $15,000, 1,700 shares common.

A. H. Mathieu & Co., Paterson, N. J. manufacture chemicals, drugs—Andrew C. Frommelt, Paterson, $125,000.

Rotenone Products Co., Inc., manufacture of chemicals, powders—Louis S. Silverstein, Morristown, N. J., 400 shares common.

Western Medical Corp., Wilmington, Del., mail order business—Corporation Charters Co., 3,500 shares common.

Drug Realty Corp., Philadelphia, Pa.—Corporation Guarantee and Trust Co., 250 shares common.

Wetzel & Waldman, New York City, druggist business—Oberwager & Oberwager, 11 West 42nd St., $25,000.

Al Rosenfeld, New York City, cosmetics—Kaplan, Kosman and Streusand, 270 Madison Ave., 100 shares common.

Owens-Illinois Pacific Coast Co., Wilmington, Del., glassware, glass—Corporation Trust Co., 20,000 shares common.

Salco Sales Corp., Jersey City, N. J., manufacture cosmetics, facial creams, powders—Joseph J. Silver, New York City, 200 shares common.

Berwyn Pharmaceutical Corp., Buffalo, N. Y., drugs—W. McCarthy, Buffalo, $250,000.

Namlak, New York City, chemical formulae—M. M. Goldstein, 1,501 Broadway, 100 shares common.

Bleachine Manufacturing Corp., Queens County, N. Y., bleaching compounds—S. H. Bauch, 154 Nassau St., New York City, $20,000.

Bayonne Cosmetic Shop, Inc., Hackensack, N. J., drugs, etc.—Richenaker & Ford, Hackensack, 2,500 shares common.

Cleaner Chemical Co., Newark, N. J., chemicals, drugs—Burnett & Trelease, Newark, 2,500 shares common.

Dermacxine Laboratories, Inc., Wilmington, Del., drugs, chemicals, cosmetics—Colonial Charter Co., $100,000.

Tunica Laboratories, New York City, drugs—M. Weintraub, 305 Broadway, 100 shares common.

Odol Products, Inc., Dover, Del., dentifrices, gargles, antiseptics—United States Corporation Co., 50,000 shares common.

American Tube and Cap Corp., Wilmington, Del., containers, container caps and tops—Corporation Trust Co., 10,000 shares common.

Institute of Medicine Manufacturers, Inc., Dover, Del., promote interests of manufacturers of reputable package medicines—Corporation Trust Co., No capital stock.

Emkins Co., New York City, toilet articles—S. B. Neufeld, 26 Court St., Brooklyn, N. Y., $10,000.

Publicker Alcohol and Chemical Sales Corp., Philadelphia, Pa., industrial alcohol, its by-products—American Guaranty and Trust Co., $5,000.

The Gerardine Corp., Wilmington, Del., stock, bonds—Corporation Trust Co., $450,000, $150,000 shares common.

Worth English, New York City, oils, cleansing creams—W. A. Ulman, 521 5th Ave., $20,000.

General Pharmaceutical, Inc., Wilmington, Del.—Delaware Charter Service, Inc., $100,000.

Fomos Laboratories, New York City, drugs—A. I. Strongin, 401 Broadway, 1,000 shares common.

McIntosh, Inc., Jersey City, N. J., deal in cosmetics—United States Corp. Co., $125,000.

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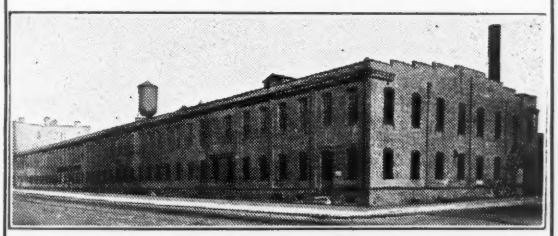

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REFINERY IN HAMBURG, GERMANY

Earnings and Dividends

(*Continued from page 464*)

Center." This structure comprises 100,000 square feet of floor area and will house all of our Chicago manufacturing operations. The installation of modern laboratory and manufacturing machinery is now practically completed. Several of the units began manufacturing before the close of the year and are now on a regular production basis. The Research Department at this Center has been particularly active and will shortly announce the introduction of several new products which hold considerable promise."

AMERICAN COM'L ALCOHOL

American Commercial Alcohol quarter ended March 31: Net profit after charges, depreciation and taxes, $108,257, equivalent to 57 cents a share on 188,518 shares, which will be outstanding soon when all old stock has been exchanged, compared with $124,837, or 33 cents a share on the 377,544 shares outstanding at the end of the first quarter of 1931.

ANCHOR CAP CORP.

Anchor Cap Corp., quarter ended March 31: Net profit after depreciation, amortization, Federal taxes, provision for Canadian exchange fluctuation and other charges, $89,085, equivalent, after preferred requirements, to 16 cents a share on 230,758 no par common shares, against $192,294, or 61 cents a common share, last year.

J. T. BAKER CHEMICAL CO.

J. T. Baker Chemical Co. year ended Dec. 31: Net earnings after Federal taxes and other charges, $80,875, against $102,187 in 1930.

COMMERCIAL SOLVENTS CORP.

Commercial Solvents Corp. quarter ended March 31: Net profit after depreciation, interest, Federal taxes and reserves, $293,454, equivalent to 11 cents a share on 2,530,174 no par common shares, compared with $537,544, or 21 cents a share on 2,529,873 shares, in first quarter of 1931.

CROWN CORK AND SEAL CO.

Crown Cork and Seal Co. year ended Dec. 31, including seven months' operations of Detroit Gasket and Manufacturing Co. and six months' operations of Western Stopper Co., Inc.: Net profit after interest, depreciation, Federal taxes and other charges, $698,707, equivalent after $2.70 preferred stock dividends to 80 cents a share on 384,122 no-par common shares outstanding, compared with profit, including $24,999 profit on sale of non-operating subsidiary, of $1,140,946, equal to $2.48 a share on 302,116 common shares, in 1930.

DRUG, INC.

Drug, Inc. earnings for first quarter ended March 31, 1932, amounted to $4,561,573, equal to $1.30 per share on 3,501,499 shares outstanding. This compares with earnings for same quarter of 1931 of $5,384,146, equal to $1.54 per share on same number of shares outstanding at that time. Company has declared regular quarterly dividend of one dollar per share, payable June 1, 1932, to stockholders May 16, 1932.

KIMBERLY-CLARK CORP.

Kimberly-Clark Corp., quarter ended March 31: Net profit after interest and Federal taxes $244,750, equivalent after preferred dividends to 19 cents a share on 499,800 no-par common shares, compared with $634,148, or 96 cents a common hare, in first quarter of 1931.

LAMBERT CO.

Lambert Co. quarter ended March 31. Consolidated net profit after taxes, $1,446,559, equivalent to $1.93 a share on 748,996 capital shares, against $2,110,307, or $2.81 a share on 748,996 capital shares, in first quarter of 1931.

LEHN & FINK PRODUCTS CO.

Lehn & Fink Products Co. quarterly dividend of 50c per share on the capital stock, no par value, payable June 1 to holders of record May 16. This compares with quarterly payments of 75c per share made from Dec. 1925 to and incl. March 1932.

MONSANTO CHEMICAL WORKS

Monsanto Chemical Works quarter ended March 31: Net profit after depreciation, Federal taxes and other charges, $275,859, equivalent to 61 cents a share on 429,000 no par capital shares, compared with $255,378, or 59 cents a share, last year.

NAUHEIM PHARMACIES, INC.

Nauheim Pharmacies, Inc., year ended Dec. 31: Net loss after taxes, depreciation, amortization and other charges, $121,494, against loss of $109,507 in preceding year.

OWENS-ILLINOIS GLASS CO.

Owens-Illinois Class Co., twelve months ended March 31: Net income after depreciation, interest, Federal taxes and other charges, $2,508,276, equal after 6 per cent. preferred dividends, to $2.20 a share on 922,173 common shares, against $2,620,111 or $2.32 a common share for the twelve months ended March 31, 1931.

PEOPLE'S DRUG STORES, INC.

People's Drug Stores, Inc., quarter ended March 31: Net profit after Federal taxes and charges, $101,493, equivalent, after 6½ per cent. preferred dividends, to 52 cents a share on 122,737 no-par common shares, against $121,360 or 66 cents a share on 123,743 common shares last year.

SHARP & DOHME, INC.

Sharp & Dohme, Inc., quarter ended March 31: Net profit after depreciation, Federal taxes and other charges $144,018, equivalent to 63 cents a share on 229,085 shares of $3.50 preferred stock. This compares with $276,418, equal, after preferred dividends, to 9 cents a share on 776,627 common shares last year.

E. R. SQUIBB & SONS

An increase in net earnings, strengthening of the financial position of the company, maintenance of the five-day week and development of many new products are noted in the annual report to stockholders of E. R. Squibb & Sons by Carleton H. Palmer, President.

Net profits for 1931 are given as $1,651,234, compared with $1,571,618 in 1930, an increase of five per cent. Current assets were $6,963,676 against current liabilities of $1,112,296. Cash on hand was $1,462,702 and earned surplus $4,703,232, compared with $652,114 and $4,054,546 respectively in 1930.

"The strong financial condition of the company," stated Mr. Palmer, "is shown by the ratio of quick assets to quick liabilities of 6.2 to 1, with cash on hand of more than double the amount at the beginning of the year and without any increase in the number of shares of capital stock outstanding."

Regular quarterly dividends were paid at the rate of $6.00 per annum on the preferred stock, and $1.50 per share on the common in place of $1.00 as heretofore. Earnings for 1931 were equivalent to five times the dividend requirements of the preferred shares outstanding.

"Consolidated sales were substantially the same in dollars as 1930", says the report, "after converting value of all sales in foreign currencies into dollars at prevailing rates of exchange."

(A.) STEIN & CO.

(A.) Stein & Co., omitted quarterly dividend usually payable about May 15 on the common stock, no par value. On Feb. 15 last, a distribution of 25c per share was made on this issue, as compared with quarterly payments of 40c. per share made from Nov. 15, 1929 to and incl. Nov. 16, 1931.

VADSCO SALES CORP.

Vadsco Sales Corp. quarter ended March 31: Net profit after depreciation, Federal taxes and other charges, $83,114, equal to $1.65 a share on 50,194 7 per cent. preferred shares, against $15,065, or 63 cents a share on 71,626 preferred shares last year.

WALGREEN CO.

Walgreen Co. six months ended March 31: Net profit after charges and Federal taxes, but before subsidiary preferred dividends, $787,546, equivalent, after subsidiary preferred and Walgreen preferred dividends, to 68 cents a share on 801,980 common shares, compared with $855,894, or 80 cents a share on 858,409 common shares, in corresponding preceding period.

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Obituaries

Thomas J. McHugh

Thomas J. McHugh, president, Vadsco Sales Corp., holding company for a number of drug and cosmetic manufacturers, died at his home in Westwood, N. J., April 26, aged 52. His entire life had been spent in this industry and his death removed a very prominent figure from it.

Thomas J. McHugh

He started in as an office boy with Pinaud, Inc. He left this organization to become a member of the sales force of Richard Hudnut and after leaving that company became associated with George Borgfeldt & Co. He soon became sales manager of the perfumery and cosmetic division of this company which was the sales agent for Rigaud, Mary Garden and other well known lines.

In 1926, with a change in the management of V. Vivaudou, Inc., he was offered the presidency of the company. Through his work thereafter the company was placed on a profitable basis and began a policy of expansion which resulted in the acquisition of complete or partial control of a number of other companies in similar or related lines of manufacture both in this country and abroad. The Vadsco Sales Corp. was formed in 1929 to act as a holding corporation for these acquired companies, among which were the American Druggists' Syndicate, Parfumerie Melba, Inc., Kny-Scheerer Corp., Alfred H. Smith Co., John H. Woodbury Sales Corp., Organic Acid & Salt Co., Aseptic Products Co., Saks Stamping Co., Voice Company, McAllister Ice Co., Vadsco Realty Corp., Societe Anonyme Parfumerie du Monde Elegante, of France, and a number of others. Mr. McHugh was a director and president of virtually all of those.

William A. Peairs

William A. Peairs, vice-president from 1896 to 1925 of the Chamberlain Medicine Co., Des Moines, and subsequently president and general manager, Dy-O-La Dye Co., Burlington, Vt., died at his home in Des Moines, April 24, aged 70.

Romaine Pierson

Romaine Pierson, owner and publisher of "The Practical Druggist" and of the "Medical Times," died at his home in New York, April 27, aged 63. Born at Union Springs, N. Y., the son of Jesse B. and Delia Mandeville Pierson, he was a descendant of Abraham Pierson, the first president of Yale. After attending the public schools of Union Springs and the Friends Seminary he started business as a retail druggist in 1888. Eight years later he bought an interest in "The American Druggist" and "The New York Medical Journal" and for sixteen years served as secretary of The Journal.

Since 1910 Mr. Pierson had been owner, managing editor and publisher of "The Practical Druggist," and since 1911 he has also been president of The Medical Times Co. and publisher of "The Medical Times Magazine." He also was manager of the Romaine Pierson advertising business.

J. Hungerford Smith

J. Hungerford Smith, founder of the J. Hungerford Smith Co., Rochester, fruit flavors, died at his home in that city, April 19, aged 77. After some years as a retail druggist, he founded the company which bears his name in 1890.

Dr. George H. Sherman

Dr. George Henry Sherman, founder of the Sherman Laboratories, Detroit, vaccines, died at Melbourne, Fla., April 19, aged 74. He was a pioneer in the development of vaccine therapy and in the manufacture of bacterial vaccines.

John B. Brooks

John B. Brooks, president of Brooks & Porter, Inc., New York, died recently at that city, aged 70. In 1890 he had formed a small printing business with his brother, Thomas B. Brooks. A few years later this firm was dissolved and he established the concern of Brooks & Porter in partnership with his brother-in-law, George M. Porter. In 1929 the concern was incorporated and he became president in which position he remained actively until his death.

Arthur W. Lambert

Arthur W. Lambert, former treasurer of the Lambert Pharmaceutical Company, St. Louis, died April 12, aged 64. At the age of twenty-three years he went to St. Louis and entered the employ of the Lambert Pharmacal Company as a clerk, subsequently advancing to the positions of chemist and treasurer of the company. He held the latter position until 1920 when control of the company was acquired by the present management and he relinquished his interest in the company, retiring from business generally.

Joseph C. Brady

Joseph C. Brady, chairman of the board, Hazel Atlas Glass Co., Wheeling, W. Va., died at his home in that city April 25, aged 81.

George C. Spencer

George C. Spencer, founder and president, Spencer Perfume Co., South Bend, Ind., died in that city April 10, aged 54.

John H. H. Wheeler

John Henry Hobart Wheeler, vice-president, Lamont, Corliss & Co., drugs, cosmetics and foods, died at his home in New Rochelle, N. Y., April 7, aged 74. Until his retirement in July, 1929, he had been doing business for nearly forty years with the drug, cosmetic, grocery and confectionery trades. Among the products with which he was prominently identified were Pond's Cold Cream, Pond's Vanishing Cream and Lux.

Robert W. Chew

Robert W. Chew, for the past thirty-nine years with Smith, Kline & French, Inc., Philadelphia, died April 12, aged 83.

McIlvaine Bros. Creditors Committee

At a meeting of the creditors of McIlvaine Brothers, Inc., Philadelphia, April 25, the following committee was elected to represent the general body of creditors for the purpose of considering the advisability of working out a plan of adjustment or reorganization without the necessity of the appointment of a receiver or instituting a bankrupt proceeding: Walter V. Smith, president, Smith, Kline & French, Inc.; J. F. Belsterling, president, Aschenbach & Miller, Inc.; W. L. McGee, credit manager, MacAndrews & Forbes; and C. H. Osborn, Philadelphia Association of Credit Men.

Cactus Remedy Co. Bought

General Western Factors, Ltd., Los Angeles, has purchased the Cactus Remedy Co., Kansas City, and the newly acquired business has been moved to Los Angeles.

Houbigant Selected Distribution

Houbigant, Inc., has returned to the practice of distributing its products through a selected list of wholesalers.

New Naef Compound

M. Naef & Co., Geneva, Switzerland, has announced a new compound, "Methylia," a less expensive version of the same company's well-known "Iralia." Full information concerning this new product may be obtained from Ungerer & Co., New York.

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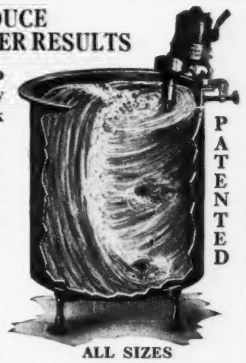

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Anaesthalgin—Para-aminobenzoic acid ethyl ester in finely pulverized form. Used as local anaesthetic. Chemische Fabrik Dr. H. Sander & Co., A. G., Wesermuende, Germany.

Antifuma Mouth Wash—Approximately a 1% aqueous solution of silver nitrate, containing a little alcohol and essential oil. (peppermint). Used for counteracting tobacco habit. Dr. Hoffmann, G.m.b.H., Dresden, Germany.

Corluten—Aqueous 50% extract of animal corpora lutea in ampoules and tablets. Used for gynecological bleedings, menorrhagia and metrorrhagia, dysmenorrhoeia, etc. Gehe & Co. A. G., Dresden, Germany.

Cholin "Roche"—A 2% sterile, stabilized injection solution of oxy-ethyl-trimethyl-ammonium chloride in ampoules holding 1 cc. Used in pulmonary tuberculosis, blood diseases, etc. Concours Medical (Paris), 1931, number 13, page 1047. F. Hoffmann La Roche & Co. A. G., Berlin.

Dazet Preparations—Active substance is high molecular weight organic gold compound of sulfonated benzene derivatives. Come in solutions, powders, pastes, salves and vaginal cones. Dr. Bernhard Villinger, Freiburg i. Br., Germany.

Luizym—Enzyme preparation containing cellulose and hemicellulose-splitting enzyme in satisfactory amount and activity. Used for preventing excessive gas in intestines, in flatulence, wind colic, etc. Luitpold Werk, Muenchen, Germany.

Katobesol—Preparation in tablet form made from entire tissue of cattle embryoes with addition of cerium compound. Used in obesity and glycogen deficiency. Administered by mouth. Contains about 7% ash of which 10% is calcium oxide and 84% cerium oxide. Pharmazeutische Zeitung 1931, page 1253. Naehrmittelfabrik Muenchen G.m.b.H., Berli-Charlottenburg 4.

Mediment—1.1 part of iodo-terpol (iodone-terpene-compound), 0.1 part of di-iodopropylthiocarbamide, 0.1 part of veratrin sulfate and sufficient ammoniated chloroformate liniment to make 100 parts. Used in rheumatism, neuritis, etc. Chemische Fabrik Krewel-Leuffen G.M.B.H.

Melosar (Female and Male)—Used for women undergoing change in life and for men. Consists of alcohol, ethyl nitrite, tincture of strophanthus, tincture opii benzoic., tincture stochmachi., tincture chinae cps., tincture condurango, tincture cascara sagrada, oleum carvi, tincture lobeliae and ovarial or testicular preparations. Pharmazeutische Monatschrift, 1931, page 226. Taunus Apotheke Dr. Jo. Mayer, Wiesbaden, Germany.

Arotran—Aromatic cod liver oil. Gehe & Co. A. G., Dresden, Germany.

Bidetal—Opalescent, milky perfumed liquid consisting of sodium bicarbonate, borax, alcohol and alcoholic soap. Used as wash by women. Dr. Albert Bernard Nachf., Berlin, SW 19, Germany.

Casumen—White, odorless, tasteless powder of pure edible casein for stomach troubles, anaemia and convalescence. Internationale Milch-Industrie F. F. Willy-Stieler, Berlin.

Curae Cream—40% lanolin, 3 to 5% wood tar and 60% water. Used for eczymatic conditions. Gustav Richter, Madgeburg, Germany.

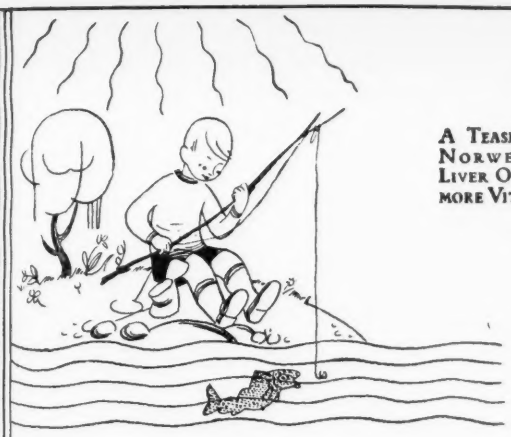
Fineural Tablets—New type contains 0.2 part of bromoisovalerianyl-urea, 0.2 part dimethylaminophenyldimethylpyrazolon, 0.005 part of codein phosphate, and 0.01 part of extract of belladonna. Used as anodyne and sedative in neuralgic conditions, etc. Pharmazeutische Zentralhalle, volume 72, 268. Dr. Oehren & Co., Berlin, SW 61, Germany.

Gastro-Sil—Jelly-like, active calcium silicate, a white powder very difficultly soluble in water and very quick adsorbent of acids. Effects very rapid and lasting neutralization, acts as an anti-digestive and does not cause constipation. Used in hyper-acidity 3 times a day, doses of enough powder to cover point of knife or two tablets after eating 2 or 3 times a day. Chemische Fabrik von Heyden A. G., Radebeul-Dresden, Germany.

Immerfroh Tablets—Made from fresh cola nuts with the addition of lecithin. Used as resuscitation medicament. Dose is 1 to 2 pastilles. Immerfroh Gesellschaft, Nuernberg, Germany.

Katexon Foil—Foil is impregnated with histamin hydrochloride and coated with metallic film and when current is passed through foil, free histamin ions pass into skin. Used for painful muscular troubles. Chemische Fabriken Schering-Kahlbaum A. G., Berlin.

Neurovis Tablets—Nerve food containing cocoa, saccharified iron oxide, lecithin, milk albumen, calcium glycerinaphosphate, extract kolae, sacch. lactis (milk sugar) and aromatic compounds. Pharmazeutische Monatshefte, 1931, page 227. Pharmakeia G.m.b.H., Berlin-Charlottenburg, Germany.



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Norwegian Cod Liver Oil

National Committee for Promoting the Consumption of Norwegian Cod Liver Oil, Post Box 226, Bergen, Norway.

Fabritius, Oslo.

Manufacturing Face Powders

(*Continued from page 442*)

and the motor started. As the cylinder revolves, the batch is carried up on the baffles and is poured upon the rapidly revolving milling rolls. The powder is forced between the rolls (which, incidentally are not really rolls at all, being somewhat pillow shaped) and it drops back again to the bottom of the cylinder, where the next baffle carries it back up and dumps it back upon the milling rolls. Thus, the entire batch is in constant flux and is being rubbed up very rapidly. The cylinder can be driven either slowly or rapidly. Similarly, can speed of the milling rolls be controlled. The ideal combination is to drive the cylinder slowly and the milling rolls rapidly. The tests conducted by the writer were made with the only churn available and this was not the right type because it was constructed of wood and equipped with only one roll. Hence, only the rapid fluxing action was achieved; the powder was not milled. However, in four revolutions of the cylinder, the color was found to be distributed throughout the entire batch, which demonstrates the fluxing action achieved with the aid of the baffles. Mere fluxing, however, is not sufficient to rub up color.

Hence, it is obvious that powder mixing requires more than mere *mixing;* it must also be *milled.* Ideal equipment, therefore, would provide the following facilities:

(*Continued on page 493*)

COD LIVER OIL

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Patents

UNITED STATES PATENTS

Fenchone

Fenchone is made by oxidizing fencyl alcohol with 15 to 50% nitric acid. Amount of acid used is such that theoretical excess does not exceed 50%. Irvin W. Humphrey, Wharton, N. J., assignors, Hercules Powder Co., Wilmington, Del. U. S. P. No. 1,850,983, filed January 14, 1928.

Calcium Lactate

Whey is treated to recover calcium lactate by effecting first an alkaline reaction in whey and thus neutralizing any lactic acid. Precipitated matter, including calcium lactate, settles. Supernatant liquor is removed and sludge washed with water to dissolve out calcium lactate. Then water used for washing sludge which contains dissolved calcium lactate, is treated to recover latter. John T. Travers, Columbus, Ohio, assignor, Ohio Sanitary Engineering Corp. U. S. P. No. 1,850,643, filed October 21, 1927.

Therapeutic Preparations

Preparations having tuberculin-like action, are made by adding ferric dialysate to an aqueous solution of tuberculin prepared from tubercule bacilli, until albumen can no longer be detected in filtrate. Active substance is isolated from filtrated albumen-free solution by a precipitant. Precipitated substance is then separated. Carl L. Lautenschlaeger, Frankfurt-am-Main, Germany, assignor, Winthrop Chemical Co., Inc., New York. U. S. P. No. 1,850,556, filed February 3, 1928.

Making Dichloramine

Dichloramine is made by causing chlorine to react with ammoniacal material in presence of material including a difficultly soluble buffer. This is of such nature and is used in such quantity that pH is maintained between 4.4 and 8.5. John C. Baker and Franz C. Schmelkes, Bloomfield, N. J., assignors, Wallace & Tiernan Products Inc., Belleville, N. J. U. S. P. No. 1,850,057, filed May 20, 1931.

Orthohydroxybenzyl Aroylamine-Arsonic Acids

Particular attention is called to new therapeutic product, known as 4-hydroxy-5-benzyl-phthalic-imide-1-arsonic acid. This drug crystallizes from hot water in colorless needles melting at 276°C. Crystals are soluble in hot water, in dilute alkalies and in warm alkali acetate solution, difficultly soluble in cold water and in dilute alcohol, insoluble in mineral acids, in ether, benzene and benzine. Werner Schmidt, Frankfort-on-Main/Mainkur, Germany, assignor, Winthrop Chemical Co., Inc., New York. U. S. P. No. 1,835,434, filed May 22, 1928.

Vitamin Concentrate

Vitamin concentrate in tablet form consists only of dehydrated blend of various vegetables in a pulverulent, compressed condition and containing vitamins. Concentrate has a vitamin A and D content greatly in excess of that normally associated with dehydrated vegetables alone. Excess is vegetable-derived but is added to blend without solids and aqueous juices of vegetable derivatives. Robert K. Prince, Westfield, Mass., assignor, W. J. Davidson, Newton, Mass. and E. A. Harvey, Brookline, Mass. U. S. P. No. 1,845,813, filed Sept. 1, 1928.

Betaine Hydrochloride

Betaine hydrochloride is obtained from schlempe and like by treating with 25% hydrochloric acid at elevated temperature. Resulting solids are removed. Liquor is concentrated and saturated with hydrogen chloride. Glutamic acid hydrochloride is removed and finally remaining liquor is concentrated to precipitate betaine hydrochloride, which is later recovered. Karl Bromig, Frankfort-on-the-Main, Germany, assignor, Deutsche Gold and Silber-Scheideanstalt vormals Roessler. U.S.P. No. 1,844,929, filed Nov. 7, 1927.

Synergized Codein Drugs

Synergic composition contains magnesium compound and codein drug. Therapeutic properties of codein are increased by presence of magnesium compound. Moses L. Crossley, Plainfield, N. J., assignor, Calco Chemical Co. Inc. U. S. P. No. 1,845,186, filed July 21, 1928.

Cod Liver Oil Emulsion

Codliver oil emulsions are improved by replacing substantial proportion of the acacia (usually required for effecting emulsification of oil) with calcium-phosphorous compound derived from steepwater of corn. Theodore B. Wagner, Brooklyn, N. Y. U. S. P. No. 1,845,370, filed June 13, 1928.

Disinfectant

This disinfectant and preservative agent consists of active principle, acetanisidine, along with fillers and other ingredients. Theodor Sabalitschka, Berlin-Steglitz, Germany, U. S. P. No. 1,845,059, filed June 17, 1927.

Substituted Propanol Drugs

Normal-substituted 1:3-diamino-2-propanols are made by causing secondary amine to react with epichlorohydrin in monomolecular proportions. Intermediate product obtained is treated with sodium hydroxide and then resulting compound is treated with secondary amine different from first. Otto Eisler, Hofheim-in-Taunus, Germany, assignor, Winthrop Chemical Co., New York. U. S. P. No. 1,845,403, filed Nov. 6, 1929.

Arsenobenzene

Arsenobenzenes are made by acid reduction of any arsenic compound of benzene series in presence of glacial acetic acid. Reduction is effected by hypophosphorous acid used in excess in presence of sulphurous acid. August, Albert, Hochst-on-the-Main, Germany, assignor, Winthrop Chemical Co. New York. U. S. P. No. 1,845,388, filed August 31, 1927.

BRITISH PATENTS

Medicinal Preparations

Stable products capable of evolving oxygen are obtained by using hydrogen peroxide phosphate compounds as agents for introducing active oxygen into readily oxidizable compounds, such as menthol, menthone, paraformaldehyde or thymol. Particularly stable products are obtained when perphosphates employed are very durable (containing two molecules of hydrogen peroxide to two molecules of disodium phosphate or to one molecule of pyrophosphate). Such a body may be obtained by mixing a slight excess of 30% hydrogen peroxide with crystallized sodium pyrophosphate, excess of peroxide being removed by vacuum distillation. Perphosphates are then dehydrated by heating. Constituents of addition products may be employed in stoichiometric proportions, for example one molecule of formaldehyde to perphosphate equivalent to one molecule of hydrogen peroxide, or excess of either constituent may be used. Individual constituents may be brought together in dry solid form, or may be partly solid and partly liquid, and small quantities of dissolving or emulsifying substances may be used, and these may be removed subsequently. G. Schoenberg, Basle, Switzerland. B. P. No. 357,721, filed August 11, 1930.

Constituents from Glands

To isolate individual organized constituents from animal or vegetable tissues or organs, for example in preparing active fractions from glands having internal secretion for example the thyroid gland and the pancreas, the tissues, etc. are dried in a frozen state and powdered after which the coarser particles may be separated, if desired, from the finer parts, the desired constituent being finally isolated by treating successively with liquids of different specific gravity. The tissues may be frozen by means of the usual cooling liquids, for example solid carbon dioxide and ether, or liquid air, and the separating liquids may be chloroform containing for example 25, 20, 15, 10 and 5% of ether and pure chloroform, a finer

fractionation being carried out on the suspension containing the desired constituent. M. Behrens Physiological Institute, Giessen, Germany. B. P. No. 357,207, filed June 6, 1930.

Medicinal Preparations

Fat-soluble basic bismuth salts adapted for treatment of syphilis are prepared by reaction between a malonic acid ester substituted by a branched radical having at least seven atoms of carbon and a solution of a basic bismuth salt, such as nitrate, dissolved by a polyhydroxylic compound such as mannitol. Production of salts from bismuth nitrate and dipropylcarbinyl malonic ester or octmalonic ester is described. Salts may be taken up in olive oil for injection purposes. Laboratoire Francais de Chemotherapie and A. Girard, Paris, France. B. P. No. 356,550, filed October 21, 1930.

Cosmetics

A bis-(hydroxyaryl)-oxide or amine or alkylamine forms an essential ingredient in cosmetic ointments or powders and tooth washes, and is used admixed with a solid, semi-solid or liquid diluent or carrier. Specified diluents are talc, soap, glycerol, wool fat, petroleum jelly, liquid paraffin, yellow or other waxes, alcohol, alkalies, ammonia, water and isobutylnaphthalenesulphonic acid. Thus a cosmetic ointment contains glycerol, wool fat, petroleum jelly and bis-(2-hydroxyphenyl)-oxide or other similar product. Examples are given for tooth washes and toilet powders. I. G. Farbenindustrie A. G., Frankfurt-am-Main, Germany. B. P. No. 358,508, filed June 24, 1930.

Special Toilet Powder

A toilet powder to repel mosquitoes is made by mixing magnesium sulphate with an ordinary toilet or face powder, or with the usual ingredients of these preparations, for example talc, soapstone powder or french chalk and starch or corn or rice flour. Boric acid and perfume may be added. Magnesium sulphate, which may comprise 1/8 to 1/6 of powder, may be dissolved in water and mixed with other ingredients, product being dried and ground. S. Katoresu, Colombo, Ceylon. B. P. No. 356,296, filed June 10, 1930.

Acid Tooth Pastes

In manufacture of acid tooth pastes containing silica gel, a mixture of ingredients is subjected to colloidal grinding at not over 70°C. to cause gel to assume liquid state during grinding whereby air is prevented from entering mass. Invasion of air is prevented to an increased degree by performing colloidal grinding in inert atmosphere soluble in mass, for example carbon dioxide, or by employing etheric oils having a high vapor pressure at temperature of grinding, as constituents of paste. Substances added must be soluble in mass and must be such that mass may be maintained in a liquid state during colloidal grinding, while they do not prevent coagulation upon cooling. Thus in case of silica-water-glycerin gel, tartaric acid, boric acid or benzoic acid may be added. Aktieselskabet Si-Ko, Oslo, Norway. B. P. No. 347,377, filed February 25, 1930.

Perfume Preparations

Perfumes are obtained by mixing 2^4-oxo-2^3-alkylbutyl-cyclohexane, the formula of which is given, or its nucelar substitution products, with other ingredients usual in perfumes. These aldehydes may be obtained by condensing ketone containing carbon atom less than aldehyde with halogen acetic ester, and splitting up glycidic acid obtained. In an example 1:1:3-trimethyl-2-(2^4-oxo-2^3-methobutyl)-cyclohexane is mixed with ionone, methylionone, ylang-ylang oil, artificial jasmine oil, heliotropine, cumarin, phenylethyl alcohol, bergamot oil, orange oil, sandalwood oil and ambrette musk, and in a further example 1:1:3-trimethyl-2-(2^4-oxo-2^3-ethobutyl)-cyclohexane is mixed with hydroxycintronellal, benzyl alcohol, benzyl acetate, phenylethyl alcohol, cinnamic alcohol and ylang-ylang oil. I. G. Farbenindustrie A. G., Frankfurt-am-Main, Germany. B. P. No. 347,952, filed June 18, 1930.

Cosmetics

Cosmetic preparations comprise a small proportion of a bis-(hydroxyaryl) sulphide or polysulphide or a substitution product or a salt of same, diluted with a solid, semi-solid or liquid diluent or carrier. According to example bis (4-hydroxy phenyl) sulphide or bis (2-methyl-4-hydroxy-5-isopropyl) sulphide is mixed with glycerol, wool fat and petrolatum. Or bis (2-hydroxy-5-chlorophenyl) sulphide is mixed with ordinary face powder ingredients. I. G. Farbenindustrie A. G., Frankfurt-am-Main, Germany. B. P. No. 349,004, filed November 12, 1929.

Hair Pomades

Ointment for hair restorer consists of mixture, preferably in proportions of three pounds of petrolatum, one ounce of beeswax, three ounces of olive oil, three ounces of green oil of elder and three ounces of oil of eucalyptus. R. Thorns, Bromwich, England. B. P. No. 350,064, filed March 17, 1930.

Cosmetics

Mineral oils are gelatinized to produce bases for toilet preparations by adding 6.9% soap and heating between 350° and 500°F. Oil may first be heated to 250°F. to remove water. Thinner product may be obtained by melting solidified oil with more oil. In an example 1.5 lb. of soft soap from castor rapeseed or cottonseed oil is stirred into 20 lb. of axle oil heated to 212° to 250°F. and temperature is raised to 450°F. until forthing ceases. M. Morgan, Calcutta, India. B. P. No. 351,041, filed March 18, 1930.

GERMAN PATENTS

Preparation of Emulsions

Salts of acylated diamines, such as diethylamino-ethyloleyl-amine hydrochloride, and esters of multi-valent alcohols with saturated or unsaturated high molecular weight fatty acids, in which unesterified hydroxyl groups are present, are used together in preparation of various emulsified products, including cold creams. A cold cream formula calls for 18% of 10% glycerine monostearate containing 0.2 part of the complex amine, 1% of white beeswax, 6% of petrolatum, 4% of wool grease, 7% of paraffin oil, 5% oil of sweet almonds and 0.4 part of hydrochloride of dipropylamino-ethyl-monoamide of linoleic acid. Components are mixed, heated to boiling and a fine emulsion formed on stirring and cooling. Th. Goldschmidt A. G., Essen, Ruhr. G. P. No. 545,763, filed March 10, 1929.

Bornyl and Isobornyl Esters

Mixture of esters obtained from pinene or pinene-containing oils and organic acids by addition of boron trioxide or mixed anhydrides of boric acid, is subjected to second esterification to increase ester content. Second esterification is carried out in presence of suitable organic and inorganic acids as catalysts. Examples of such acids are oxalic acid, toluene sulphonic acid, orthophosphoric acid, etc. Yield of bornyl and isobornyl esters is increased from 45 to 55% to 65 to 70%. Dr. Ludwig Schmidt, Hamburg-Bergedorf. G. P. No. 543,429, filed July 26, 1928.

Soap-free Hair Cleanser

Oils suitable for treatment of scalp, for example olive, sesame, petrolatum, are mixed with alcoholic tinctures of drugs, such as jaborandi leaves, chamomille or like. Mixture is then admixed with albumen, vegetable or egg, and emulsified. Preparation can be easily washed out of hair by warm water. It can be used as dandruff cure and for removal of excess metal salts in dyeing hair. Franz Geier, Berlin-Schoeneberg. G. P. No. 544,127, filed January 8, 1929.

Artificial Musk Perfume

Musk perfumes are made by nitration of toluene hydrocarbons, containing simultaneously isopropyl and tertiary butyl groups. Tertiary butyl-cymoles are mentioned and prepared. Thus meta-cymol is treated with anhydrous aluminum chloride and mixture is poured into isobutyl chloride. After evolution of hydrochloric acid gas has stopped, product is poured into cold water. It is first

(Continued from page 487)

Abstracts

Carotene from Adrenal Glands

Adrenals of the ox were extracted with ethyl alcohol acidified with 0.2% of acetic acid and acetone. After removal of solvent, residue was treated with potassium hydroxide in ethyl alcohol, extracted with ether and recrystallized from methyl alcohol in 0.03% yield. Carotene obtained in identical with that from vegetable sources. O. Bailly and R. Netter, Comptes rendues, volume 193, pages 961-3.

Extraction of Insulin

Conditions for optimum extraction of insulin from ox pancreas by means of acidified ethyl alcohol mixtures were determined, and yields of 3,000 to 3,500 units per kilogram obtained. Purified insulin added to minced pancreas was almost completely lost during extraction, while similar addition of crude material resulted in quantitative recovery. C. M. Jephcott. Trans. Royal Soc. Canada, volume 24, III, V, 183-186.

Separation of Terpineols

After series of vacuum fractionations of commercial terpineol followed by means of *n* determinations, alpha-terpineol, m. p. 35°C., b. p. 85° C./3 mm., was separated in crystals by seeding and recrystallization after melting. Mother liquors were refractionated and selected fractions converted into boric esters, which were fractionally hydrolyzed with sodium hydroxide. Alpha-terpineol could not be completely eliminated. Various derivatives were prepared and constants determined. M. Ransac, Bull. Inst. Pin., volume 207, 223-229.

Solubility of Calcium Gluconate

Calcium gluconate is only slightly soluble in water at ordinary temperature. Solubility between 20° and 96°C. has been investigated. Solubility is increased by addition of boric acid. To prepare a 10% solution at 20°C., 0.60-0.65% of boric anhydride is added. F de Carli Annali Chim. Appl. 21,447-53.

Synthesis of Vitamin C

Dimethyl-, methyl- or nor-narcotine are claimed to prevent onset of scorbutic symptoms, when administered to guinea pigs on a scorbutic diet, although the animals die after about five weeks. The second of the compounds is particularly active. Narcotine was hydrolyzed with concentrated hydrochloric acid for varying periods. After 48 hours of continuous treatment (Preparation A) the composition of unpurified product corresponded to that of dimethylnornarcotine together with a little methylnornarcotine. After 72 hours' continuous treatment (Preparation B) the product according to the methoxyl content, consisted of methyl nornarcotine mainly. Both preparations were tested in various doses. In all cases the onset and development of scurvy was characteristic of guinea pigs subsisting on a scorbutic diet only. The experiments are being carried out further. S. Smith and S. S. Zilva, Jour. Soc. of Chemical Industry, 1932, 166.

Vitamins in Liver Extracts

Commercial liver extract (Eli Lilly No. 343) fed to rats, whose nutrition lacked vitamin B_2, caused good growth, the daily administration being 40 to 60 mg. Extract is comparatively poor in vitamin B_1. It is richer in B_2 than yeast. It is therefore a suitable material for B_2 concentrate. Almost all vitamin B_2 can be removed by boiling water. B. C. Guha. Lancet. volume 220, 861-5.

Bacteria-proof Packing

Experiments carried out with various types of paper packing to determine resistance to passage of bacteria showed that many of papers used for packing various pharmaceutical products were quite pervious to bacteria. This perviousness became greater as the papers were moistened. The use of several layers of paper decreased this effect. Parchmentized paper and transparent cellulose were most favorable. Rodenbeck. Ztrbl. Bakter. Parasitenk. volume 123, 241-50. Section I.

Rio and Cartagena Ipecac

Several Rio and Cartagena roots were investigated. They were found to contain 1.68 to 1.82% alkaloid when pulverized with woody substance and 1.91 to 2.1% when pulverized without woody substance. Authors do not recommend Cartagena product as it is very easily adulterated. Magyar Gyogyszeresztudomanyi Tarsasag Ertesitoeje, volume 7, pages 493-8. Pal Liptak and Karoly Szahlender.

Crystallized Vitamin D

Various processes for isolation of vitamin D are described. The relation between this vitamin and ergosterin is established. It is shown that it has same composition as latter, same molecular weight, same esterifiable hydroxyl group and same three double bonds. Properties and characteristics of Vitamin D_1 and Vitamin D_2 are described. Various types of ultra-violet apparatus used for activation of ergosterin, are described. J. H. Frydlender. La Revue des Produits Chimiques, 1931, pages 741-5.

Preparation of Ergosterine

Difficulties encountered in preparation of ergosterol and its irradiation are outlined as follows. First, isomeric sterols formed and which cannot be activated due to their high optical density, form a shield which partly opposes active irradiation, resulting in considerably diminished production of vitamin D. Second, ergosterol, if not immediately irradiated, is subjected under influence of air to oxidation and oxidized products destroy vitamin D formed by irradiation. Third, ultra-violet rays must be selected. Chemical reaction caused by ultra-violet rays and which transforms ergosterol into vitamin D does not stop at this stage. Vitamin D is destroyed and converted into a resin, which possesses no anti-rachitic properties. Union Pharmac eutique, 1931, 335.

Toxicity of Therapeutic Principles

That it is necessary to examine contingently toxic properties of new substances, which are highly important therapeutically, was recently proven by experiments on vitamin D. Besides anti-rachitic factor, vitamin D contains a dangerous principle called calcinose factor, which can lead to mortal accidents. The intensity of the two factors is not parallel and it is possible to prepare vitamin D by irradiation, which product will not have any anti-rachitic power at all and still be very toxic. It is therefore absolutely necessary to determine the value of these two factors before placing product on market. F. Holtz, F. Lacquer, M. Kreitman and T. Moll. Pharmazeutische Zeitung, 1932, number 1.

Preparation of Iodine Tincture

Quantity of titratable iodine decreases more rapidly in the first months of storage than in later months. Largest decreases in iodine are found in tinctures, containing from 5 to 10% iodine and prepared with 95% alcohol without addition of potassium iodide. Decrease of iodine is less in tinctures prepared with 90% alcohol, containing 10% iodine and no potassium iodide. Tinctures made with potassium iodide do not change much at all. N. M. Kornilow. Bull. Wiss. Chem. Pharm. Forsch. Inst. of Russia., 1931, pages 221-3.

New Antiseptic

This preparation, known as magnocid and possessing formula, Mg(OH)(OCl), has approximately 35% chlorine content and is used for dry treatment of wounds. It also serves as a stable chlorine-containing antiseptic without irritating action for various medicinal purposes. It has a use in cosmetics because of its odor-destroying properties. Directions are given for the preparation of powders, creams and anti-perspiration preparations. H. Janistyn. Deutsche Parfuemerie Zeitung, volume 17, 499-500.

Isatin Pharmaceuticals

Synthesis of medicinals containing isatin, phenol-isatin and diacetyl-bis-oxyphenylisatin is described. Physical and chemical properties of diacetyl-bis-oxyphenylisatin were determined. Directions are included for the preparation of tablets. E. V. Christensen. Arch. Pharm. og Chem., volume 38, 47-56; 69-78.

Morphine in Opium

Opium emulsified in water is treated with calcium hydroxide in presence of manganous chloride and aqueous extract is treated with ammonium chloride in presence of ether to dissolve alkaloids. Precipitated morphine is washed with saturated aqueous solution of morphine dissolved in tenth-normal acid, and excess acid is titrated with tenth-normal sodium hydroxide, first to methyl red and then, in presence of ether, to phenolphthalein. Method gives more consistent results than those obtained with ethyl alcohol-tartaric acid method. N. Rusting, Archiv Pharmacie, volume 269, 609-615.

Vitamins in Cod Liver Emulsions

Emulsion is heated with 25% hydrochloric acid; ethyl alcohol and water are added. Solution is extracted with mixture of half ether and half gasoline. Greater part of aqueous layer is removed and remaining part treated with gum tragacanth until solid. Organic solvents are removed to yield on distillation residue which is weighed. Method is claimed to be superior to that of drying on sand followed by Soxhlet extraction. Application of some color reactions for fat soluble vitamin to pharmaceutical preparations of the oil and its emulsions is described. H. Valentin. Pharm. Ztg. volume 76.

Peroxides of Ether

Experiments have shown that peroxides are formed particularly when ether contains acetic aldehyde. Consequently, when peroxides are destroyed (for example by ferrous salt), it is also necessary to remove acetaldehyde. If not, peroxide is reformed. It is likely that this substance is ethylidene peroxide, which can form both in dry and wet ether. A. Rieche. Pharmazeutische Zeitung, 1932, number 4.

PATENTS

(*Continued from page 485*)

washed with cold water and then with sodium hydroxide solution and finally fractionally distilled. Fraction between 220° and 230°C. contains butylmetacymol. Product is then nitrated with fuming nitric acid to give dinitro-isopropyl-tertiary-butyltoluene, which is a perfume. L. Givaudan & Cie., S. A., Genf, Switzerland. G. P. No. 542,252, filed April 13, 1930.

Stable Iodized Oils

Natural oils are esterified by low molecular weight alcohols and then iodized. Iodized oils are thinly viscous and suitable for intravenous injections. Dr. Erich Kornick, assignor, E. Merck, Darmstadt. G. P. No. 521,725, filed July 8, 1929.

Carbohydrate Lime Compounds

Calcium hydroxide acts at not over 60°C. on carbohydrates, predominantly of sugar type, either in solution or suspension. Concentration of lime hydroxide is gradually increased during reaction, until 50% of CaO, based on carbohydrate used, is attained within one hour. Lime is combined further, and completely in certain instances, when liquid mass is dried in vacuum at not above 70°C. Slight, persisting alkalinity is removed by acid soluble salts, such as sodium phosphate (primary). Dr. Ernst Stern, Berlin-Charlottenburg. G. P. No. 522,302, filed October 13, 1925.

Colloidal Silver-Tannin-Albumen

Aqueous solution of silver-albumen is added to solution of diacetyl-tannin, which is acid in reaction. Colloidal solution of diacetyl-tannin-silver-albumen is carefully dried under vacuum. Dr. Henryk Cohn, Berlin and Dr. Conrad Sieber, Berlin-Charlottenburg. G. P. No. 519,531, filed March 15, 1928.

Mixed Alkaloid Salts

Mixed salts of solanaceen alkaloids with multi-basic acids are obtained by combining components in molecular proportions in solvent which is removed under carefully controlled conditions. Compounds are important therapeutically. Dr. Walter Schoeller, Berlin-Charlottenburg and Dr. Herbert Schotte, Berlin-Reinickendorf, Germany, assignors, Schering-Kahlbaum A. G., Berlin. G. P. No. 520,856, filed June 27, 1926.

Preparations from Cassia Fistula

Fruit is treated with mixture of organic solvents free from water. Solvent mixture is able to dissolve adhesive substances in fruit but has only slight solubility for anthraquinone glucosides. Mash obtained is treated mechanically to remove coarser constituents and then separated from solution containing mucilaginous substances. Dr. Walter Straub, Muenchen. G. P. No. 528,921, filed March 29, 1929.

Perfume from Flowers

Yield of perfume is considerably increased and quality improved, when gaseous stream, passing over flowers, etc., is first dried and velocity controlled, so that flowers are not spoiled. Thus 360 kilograms of hyacinth flowers are subjected for 72 hours to action of current of air, dried over calcium chloride, at velocity of four meters per minute at 30°C. Air is passed through 1500 grams of absorptive charcoal, and seventy grams of hyacinth flower oil are obtained from charcoal by extraction with ethyl chloride. I. G. Farbenindustrie A. G., Frankfurt-am-Main. G. P. No. 541,047.

Tribromo-Ethyl Alcohol

Concentrated, aqueous solutions of tribromo-ethyl alcohol are obtained by dissolving latter in water in presence of alkali salts of butyric acid. Dr. Fritz Tiemann, Kiel. G. P. No. 529,423, filed December 5, 1928.

Preparations for Blood Diseases

Suitable preparations, free from albumen and used for diagnosis and therapy of gonococci, streptococci and staphylococci infections, are made from solution products obtained from such cultures. These are mixed in certain instances with sodium acetate, ammonium chloride, etc. and treated with lower molecular weight alcohols. Substances, precipitated are repeatedly reprecipitated from water and alcohol in presence or absence of salts. In certain instances, products obtained are treated to remove admixed salts. Schering-Kahlbaum A. G., Berlin. G. P. No. 527,183, filed October 9, 1929.

Ovarial Substance Solutions

Ovarial substance solutions, free from cholesterin or poor in cholesterin, are obtained by treating crude extracts in usual manner with water-soluble ethers and esters of multi-basic alcohols. I. G. Farbenindustrie A. G., Frankfurt-am-Main. G. P. No. 527,153, filed October 16, 1926.

MISCELLANEOUS PATENTS

Camphor from Borneols

Borneol is heated with maximum of 6% of metallic oxides in alkali or alkaline earth hydroxides below 230°C. Thus 100 parts of borneol or isoborneol dissolved in neutral solvent, are heated after addition of 4 parts of cuprous oxide and 10 parts weight of calcium hydroxide to temperature sufficient to split off hydrogen. This stops at 250°C. A little copper is added from time to time. Oxides of nickel, cobalt and uramium may be used in place of copper. Camphor is extracted. L. de Moltke-Huitfeldt and H. Gammay. French Patent No. 675,124, filed October 6, 1928.

Perfume from Iris Root

Myristinic acid and other fatty acids contained in iris root, are converted into esters having a low melting point. This is done by treating raw material with mixture of methyl alcohol and sulphuric acid. S. A. Etablissements Roure-Bertrand Fils and J. Dupont, Grasse, France. French Patent No. 673,341, filed July 30, 1928.

Glycidic Acids

These important aromatics are made by new process from aldehydes, unsaturated in alpha and beta positions by treatment in alkaline solution with hypohalogenites or hydrogen peroxide. Thus cinnamic aldehyde is oxidized by solution of sodium hypobromite below 50°C. The yield is 7.5 parts of sodium phenylglycide, 6.6 parts of cinnamaldehyde. When crotonaldehyde is used as starting substance, final product is methyl-glycidic acid. A. A. Kaufmann, Switzerland. French Patent No. 682,471, filed September 30, 1929.

BIRD'S-EYE VIEW OF PLANT AND RESEARCH LABORATORIES

MANUFACTURERS OF

Quinine Sulphate
Codeine Sulphate
Bismuth Subnitrate
Potassium Iodide
Silver Nitrate
Acetanilid
Thymol Iodide
Bismuth Subcarbonate
Cinchonine
Cinchona Alkaloids

Cinchophen
Codeine Phosphate
Cinchonidine
Morphine Sulphate
Ethyl Morphine
Iodoform
Glycerophosphates
Opium
Brucine
Quinidine

Thymol
Salicylates
Strychnine
Bromide of Soda
Bromide of Potash
Bromide of Ammonia
Silver Salts
Menthol-Y (trade-mark reg.)
Vanillin

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Prices Current

Medicinal, Aromatic, and Photographic Chemicals, Crude Drugs, Spices, Essential Oils and Concentrates, Miscellaneous Raw Materials, etc.

Chemical prices quoted are of American manufacturers, spot New York, f. o. b. for immediate shipment, unless otherwise specified.

Products sold f. o. b. works are so specified. Imported chemicals are so designated. Resale stocks, when a market factor, are indicated "second hand."

Crude Drugs and Essential Oils are quoted f. o. b. New York (Manhattan with limitations) for immediate shipment.

The range of price given is not "bid and asked," but are prices of different sellers, based on varying grades and/or quantities. Containers named are original packages most commonly sold.

Acetanilid
Hyoscyamine Hydrobromide

Chemicals

Acetanilid, USP, 200 lb bbls..lb	.22	.23
Acetone, pure 350 lb drs wks..	.12	.14
Acetphenetidin, 225 lb bbls..lb.	1.25	1.30
ACID, Acetylsalicylic, 225 lb bbls.	.75	.80
Agaric, 1 oz vials.....oz	...	3.50
Arsenous, USP, 220 lb bbls lb.	...	.18
Benzoic, USP, 100 lb bbls.lb.	.50	.55
Boric, 300 lb bbls.....lb.	.07	.08
Cacodylic, 5 lb. bot.....lb.	...	8.00
Camphoric, USP, VIII 1 lb bot.....lb.	4.82	4.82
Carbolic, USP, crys 112 lb tins.....lb.	.17	.18
Cinnamic, 5 lb cans.....lb.	3.25	3.50
Citric, USP, crys 230 lb bbl .....lb.	...	.32
USP, crys imp. 112 lb keg .....lb.	.34	.36
USP, powd 200 lb bbl...lb.	...	.32½
Gallic, USP, 150 lb bbls..lb.	...	.74
Glycerophosphoric, 25% 1 lb bot.....lb.	1.40	1.75
Hydriodic, USP, 10% 5 lb bot.....lb.	...	.70
Hydrobromic, USP, 40% 155 lb. cbys.....lb.	...	.55
Hypophosphorous, USP, 30% .....lb.		
5 gal demis....lb.	...	.85
Lactic, USP, VIII 100 lb cbys lb.....	.48	.50
USP, X 100 lb cbys.....lb.	.50	.52
Phenylcinchonic.....lb.	...	3.25
Phosphoric, USP, Syr 70 lb drs.....lb.	.14	.15
Pyrogallic, crys 5 lb cans..lb.	1.30	1.40
Resublimed, 5 lb cans..lb.	1.60	1.70
Salicylic, USP, 100 lb bbls.lb.	.40	.45
Stearic, double pressed, bags .....lb.	.08	.08½
Triple pressed, bags.....lb.	.09½	.10
Succinic, 100 lb bbls.....lb.	...	1.35
Sulfurous, USP, 6% 100 lb cbys.....lb.	.05	.06
Tannic, USP, fluffy 50 lb bbls. .....lb.	.90	.93
Powd 200 lb bbls.....lb.	.80	.85
Tartaric, USP, 300 lb bbls.lb	.24	.24½
Aconitine, Alk, crys 1 oz vials .....oz.	...	30.00
Amorphous, 1 oz vials....oz.	...	20.00
Adeps Lanae, hyd 350 lb bbls lb.	.13	.15
Anhydrous, 350 lb bbls....lb.	.14	.16
Agaricin, 1 oz vis incl.....oz.	...	2.32
ALCOHOL, Benzyl, 5 lb bot lb. F. O. B. Works.....	1.20	1.35
Ethyl, USP, 190 pf 50 gal bbls.....gal.	...	2.53½
Grain U. S. P. bbls....gal.	...	2.58½
Pure tax free drums...gal.		
Ethyl.....	...	.445
Grain.....	...	.495
Denatured, (drums included) add 5c for bbls.		
No. 1 spec.....gal.	.335	.415
No. 5 comp.....gal.	.345	.425
23 a, spec.....gal.	.37	.49
39 b, spec.....gal.	.395	.515
40 m, spec.....gal.	.34	.46
Isopropyl refd 98-99% drs. incl.....gal.	.55	.60
Phenylethyl, 1 lb bot.....lb.	4.30	4.50
Aloin, USP, 100 lb cases....lb.	1.00	1.10
Aluminum Acetotartrate kegs .....lb.	...	1.60
Amidipyrine, 10 lb boxes....lb.	4.00	4.10
AMMONIUM, Acetate 100 lb kegs.....lb.	.38	.40
Benzoate, USP, 1 lb bot...lb.	...	1.27
Borate, 10 lb bot.....lb.	...	.35
Bromide, USP, 450 lb bbls.lb.	.35	.36
Carb, USP, lump 150 lb kegs .....lb.	...	.11
USP, powd 150 lb kegs..lb.	...	.12
Citrate, 100 lb kegs .....lb.	.90	1.30
Ichthyolate, as to brand..lb.	4.00	4.50
Iodide, USP, 25 lb jars...lb.	...	5.20
Phosphate, dibasic 250 lb bbls .....lb.	.48	.50
Salicylate, USP, 100 lb kegs .....lb.	1.15	1.20
Valerate, USP, 25 lb jars...lb.	2.75	2.90
Amylene Hydrate, 1 lb bot..lb.	...	7.10
Antipyrine, USP, 100 lb cans.lb.	2.00	2.50
Apomorphine Hydrochloride, ½ oz. vials.....oz.	22.60	22.70
Arecoline Hydrobrom, 1 oz vials .....oz.	5.25	5.35
Aspidospermine Amorphous.oz.	...	15.00
Atropine Alk, USP, 1 oz. vials .....oz.	6.50	7.00
Methyl bromide, 1 oz vials.oz.	...	25.00
Sulfate, 5 oz cans.....oz.	...	2.50
Single ounce.....oz.	...	3.00
Barbital, 1 lb. bot.....lb.	3.50	3.85
Barium Iodide, 5 lb box.....lb.	...	5.15
Sulfate, X-ray diagn bbls..lb.	.09½	.10
BAY RUM Porto Rico, 45 gal. bbls.....gal.	.75	.80
Domestic syn. 50 gal bbl..gal.	.70	.75
St. Thomas, 50 gal bbls...gal.	.80	.90
Benzonaphthol, 5 lb boxes...lb.	2.50	2.60
Benzoyl Cholride, 500 lb dr..lb.	1.00	1.05
Benzyl Benzoate, Medicinal FFC.....lb.	1.20	1.40
Chloride Redis, 160 lb cby.lb.	.30	.35
Formate, 1 lb bot.....lb.	3.25	3.50
Succinate, 160 lb cby.....lb.	...	5.25
BISMUTH, metal 100 lb cases .....lb.	...	.90
Ammon. Citrate, USP, 5 lb cans.....lb.	...	3.10
Betanaphtholate, 5 lb box.lb.	...	2.90
Citrate, USP, 5 lb cans....lb.	...	2.45
Chloride.....lb.	...	2.35
Hydroxide.....lb.	...	2.65
Nitrate, 25 lb jars.....lb.	...	.95
Oxide anhydrous.....lb.	...	3.05
Oxychloride, 25 lb boxes...lb.	...	2.60
Salicylate, 25 lb boxes...lb.	...	1.55
Subcarbonate, USP, 25 lb boxes.....lb.	1.25	1.30
Subcarbonate, X-ray diag 1 lb. bot.....lb.	2.20	2.27
Subgallate, USP, 25 lb boxes .....lb.	1.35	1.40
Subiodide, 5 lb lots.....lb.	...	4.10
Subnitrate, USP, 25 lb jar.lb.	1.10	1.15
Subsalicylate, USP, 25 lb boxes.....lb.	2.15	2.20
Tannate.....lb.	...	2.15
Borax, crys USP, 400 lb bbls.lb.	...	.06
Bromoform, USP, 5 lb bot cases .....lb.	1.65	1.90
Butylchloral Hydrate bot....lb.	4.00	5.00
Cadmium iodide, 10 lb bot...lb.	...	4.55
CAFFEINE Alk, USP, 1.....		
100 lb kegs.....lb.	2.45	2.50
Citrated, 50 lb cans.....lb	2.20	2.45
Hydrobromide, 1 lb bot...lb.	4.80	5.00
Hydrochloride, 1 lb bot...lb	6.05	6.55
Sulfate, 1 lb bot.....lb.	5.40	5.90
Sodium Benzoate, tins....lb.	...	3.05
Salicylate, tins.....lb.	...	2.95
Calcium Bromide, 100 lb cs..lb.	...	.60
Carb, USP, 175 lb bbls....lb.	.05	.06
Gluconate, Gran. 125 lb..... bbls.....lb.	.47	.52
Powd.....lb.	.47	.52
Glycerophos, 250 lb bbls...lb.	...	1.05
Hypophos, USP, 25 lb cans lb.	.55	.60
Iodide, 5 lb bot.....lb.	...	4.85
Lactate, USP, 500 lb bbls lb.	.45	.50
Lactophosphate Soluble...lb.	...	1.20
Powdered tins.....lb	...	1.00
Insol, powd tins.....lb.	...	.50
Phosphate & Sulfate Tooth Paste grade, Works..lbs.	.03	.06
Sulfide, USP, 100 lb drs...lb.	.21¼	.24
CAMPHOR, Jap. ref. slabs 100 lb. cases.....lb.	.42	.44
Refined powd.....lb.	.43	.44
½ oz tab, 100 lb cases....lb.	.50	.52
Liniment, bbls.....gal.	2.10	2.20
Monobrom, 100 lb cases...lb.	1.60	1.65
Casein edible, 100 lb kegs...lb.	.45	.55
Charcoal Animal medicinal jars incl.....lb.	...	.50
Charcoal Wood, powd, 100 lb. bbls.....lb.	.06	.07
Chloral Hydrate, USP, 25 lb jars.....lb.	.75	.77
100 lb drums.....lb.	.70	.75
Cholesterin.....lb.	15.00	20.00
Chloroform, USP, 50 lb drs...lb.	.25	.27
Chlorophyll, 1 lb. bot.....lb.	2.12	2.30
Chromium Sulfate Scales, tins .....lb.	.45	.50
Powdered tins.....lb.	.50	.55
Chrysarobin, 50 lb tins.....lb.	3.75	4.10
Cinchonine Alk, 100 oz tins.oz.	...	.34
Crystal.....oz.	.43	.46
Sulfate, 100 oz tins.....oz.	...	.23
Cinchonidin Sulfate, 100 oz tins .....oz.	.32	.35
Cincophen, U.S.P. kegs....lb.	...	2.75
Cocaine Alk, USP, 1 oz vial..oz.	...	11.07
Hydrochloride, USP,.....oz.	...	8.50
CODEINE Alk, 1 oz vials, 10 lots.....oz.	...	10.52
Hydrobromide.....oz.	...	8.92
Hydrochloride.....oz.	...	9.52
Nitrate, oz vl 10 oz lots....oz.	...	9.80
Phosp. oz vl, 10 oz lots....oz.	...	7.92
Salicylate.....oz.	...	8.25
Sulfate, oz vl, 10 oz lots...oz.	...	8.42
Colchicino Alk, USP, 1 oz vl.oz.	...	20.00
Salicylate, 1 oz vls.....oz.	...	35.50
Cream Tartar, USP, 300 lb bbls .....lb.	.18½	.19
Imp. powd. 224 lb bbls....lb.	.18¼	.18¾
Creosote, USP, 42 lb cbys....lb.	.45	.47
Carbonate, 150 lb.....lb.	1.50	1.60
Cresol, USP, 400 lb drums...lb.	...	.18
500 lb drums.....lb.	.12	.15
DIGITALIN Pure, 1 oz vial .oz	15.00	15.50
Dover's Powder, USP, 5 lb tin .....lb.	2.75	2.80
Duboisine Sulfate, 1 oz vl....oz.	35.00	40.00
Emetine Alk, 15 gr vial.....oz.	...	.85
Hydrochloride, USP, 1 oz vl .....oz.	25.00	26.00
15 grain vials.....oz.	2.50	2.70
Ephedrine, alk. 25 oz. tins,..oz.	2.90	3.45
Hydrochloride, 25 oz. tins, oz.	2.25	2.70
Sulfate, 25 oz. tins.....oz.	2.25	2.70
Epsom Salts, USP, 200 lb bbls .....100 lb.	2.25	2.50
Imp. 100 lb bbls.....100 lb.	2.30	2.35
Ergotin Bonjean, 1 lb jars...lb.	18.50	19.00
Eserine Alk, 1 oz vials.....oz	...	50.00
Salicylate, 1 oz vials.....oz.	...	40.00
Sulfate, USP, VIII 1 oz vials .....oz.	...	40.00
ETHER, USP, 55 lb drums..lb.	...	.11
Anaesthesia, 55 lb drums..lb.	.21	.23
Nitrous, 1 lb bot.....lb.	...	.80
Ethyl Chloride, 200 lb bot...lb.	.22	.24
Ethyl Iodide, 5 lb bot.....lb.	...	6.25
Formaldehyde, USP, 100 lb cbys lc-l wks.....lb.	.07	.07½
Gall Extract.....lb.	.20	.21
GLANDULAR SUBSTANCES		
Duodenal Substance, 1 lb lots	...	4.75
Liver Substance (Hepatic) 1 lb lots.....	...	4.25
Orchic Substance (Testicular)	...	3.75
Ovarian Substance, whole, 1 lb lots.....	...	16.50
Ovarian Residue, 1 lb lots....	...	12.00
Pituitary Substance, whole 1 lb lots.....	...	34.50
Pituitary Substance, Anterior Lobe, 1 lb lots.....	...	23.50
Thyroid, U. S. P. 1 lb lots...	...	3.75
Oxgall Powder, 1 lb lots....	...	1.25
GLYCERIN, CP, 550 lb drums .....lb.	...	.10¾
Gold Chloride, bottles.....oz.	12.00	12.50
Guaiacol, liq. USP. 100 lb. cbys.....lb	1.60	1.70
Crystals.....lb	2.25	2.50
Benzoate, 1 lb bottles.....lb.	...	13.00
Carbonate, 5 lb boxes.....lb.	1.50	2.30
Halazone, 5 lb bot.....lb.	2.75	3.25
Hexamethylenetetramine, USP, 100 lb dr.....lb.	.46	.47
Homatropine Hydrobrom USP. .....oz.	...	14.50
5 oz and 1 oz vials.....oz.	...	13.50
Hydrastine Alk, USP, 1 oz vial .....oz.	20.50	21.00
Hydrochlide, USP, 1 oz vials .....oz.	20.50	21.00
Sulfate, 1 oz vial.....oz.	22.50	23.00
Hydrastinine Hydrochloride, USP, 15 gr vials.....oz.	...	40.00
Hydrogen Peroxide, USP, soln 375 lb bbls.....lb.	.03½	.04¼
Hyoscine Hydrobrom, USP, 1 oz vials.....oz.	...	35.00
5 oz, 1 oz vials.....oz.	13.07	13.57
Hyoscyamine Alk, crystals, 1 oz vials.....oz.	...	25.07
Amorphous, 1 oz vial...oz.	...	75.07
Hydrobromide, USP, 1 oz vial		

.....oz.	...	25.00
Sulfate, 1 oz vial.....oz.	...	25.07
Hypoquinone, 100 lb kegs...lb.	...	1.10
ICHTHYOL, tins.....lb.	4.00	4.25
Iodide Arsenous, 5 lb bot...lb.	...	5.20
Arsenous-Mercuric soln, 5 lb bot.....lb	...	.26
Iodine, crude, 200 lb kegs...lb.	...	2.98
Resublimed, 25 lb jars....lb.	...	3.65
Tincture bbls.....gal.	...	3.40
Iodoform, powd 10 lb bot...lb.	...	5.50
Iron & Ammonium Citrate, USP, 50 lb cans.....lb.	.52	.54
Chloride, USP, lump 400 lb bbls.....lb.	.06	.08
Citrate, USP, VIII 25 lb can .....lb.	.94	.99
Hypophosphite, 5 lb cans..lb.	1.40	1.50
Iodide, 1 lb bottles.....lb.	...	4.28
Phosphate, USP, 50 lb cans .....lb.	...	.69
& Potas Oxalate, 250 lb bbl .....lb.	...	.45
Pyrophosphate, USP, 50 lb .....lb.	.74	.80
& Sod Oxalate, 50 lb. cans.lb.	...	.30½
Sulfate, USP, crys bbls....lb.	.04	.04½
Ferrous dried bbls.....lb.	...	.08
Valerate, tins.....lb.	2.75	3.00
Jalap Resin, USP lumps, 5 lb tins.....lb.	...	4.00
Powdered, tins.....lb.	...	4.65
Lead Acetate, USP, 100 lb kegs .....lb.	.16½	.19½
Iodide, USP, VIII 5 lb bot.lb.	3.20	3.40
Lecithin, 5 oz. jars.....oz.	1.00	1.30
Vegetable, cans.....lb.	1.00	1.25
Licorice Ext Mass, cases....lb.	.19	.20
Compound powder, bbls..lb.	.11	.13
LITHIUM CARBONATE, 250 lb bbls.....lb.	1.25	1.35
Citrate, USP, 100 lb kegs..lb.	...	1.40
Iodide, 5 lb bottles.....lb.	...	5.65
Lobeline Sulfate, ¼ oz vial...oz.	...	8.75
Magnesium Carbonate, USP, 100 lb bbls.....lb.	.08	.09
English, oz blocks.....oz.	.16	.18
Glycerophosphate, 5 lb tins.lb.	3.20	3.25
Hypophosphite, 5 lb cans..lb.	1.10	1.15
Salicylate, 100 lb kegs.....lb	...	1.10
Stearate, bbls.....lb.	.18	.20
Manganese Glycerophosphate, 5 lb tins.....lb.	2.90	3.00
Hypophosphite, USP, VIII 5 lb cans.....lb.	1.35	1.40
Iodide, 1 lb bottles.....lb.	6.40	6.65
MENTHOL, USP, 60 lb cases .....lb.	2.75	2.95
Synthetic, cases.....lb.	2.60	2.85
Mercury Metal, 75 lb flasks...fl.	68.00	69.00
Bichloride, crys 25 lb box..lb.	...	1.02
Gran powd, 100 lb kegs..lb.	...	.87
Bisulfate, 25 lb boxes.....lb.	...	1.48
Blue Mass, 25 lb boxes....lb.	...	.84
Powd, 25 lb boxes.....lb.	...	.85
Blue Ointment, USP, 50%, 25 lb cans.....lb.	...	.90
Mild 30%, 25 lb cans....lb.	...	.69
33 1/3% mercury.....lb.	...	.94
Calomel, 50 lb boxes.....lb.	...	1.43
English.....lb.	2.65	2.75
Iodide, green, 25 lb jars....lb.	...	4.53
Red, USP, 25 lb jars...lb.	...	4.13
Yellow, USP, VIII, 25 lb jars.....lb.	...	4.03
Red precip Powd. USP, 25 lb. boxes.....lb.	...	1.54
White precip, Powd., USP, 25 lb. boxes.....lb.	...	1.59
Salicylate, 25 lb bot.....lb.	...	2.32
With chalk, USP, 25 lb boxes .....lb.	...	.69
Methanol, Pure 1c-1 drs....gal	...	.44
Methyl Salicylate, USP, 50 lb cans.....lb.	.40	.42
Methylene Blue, USP, med 5 lb cans.....lb	2.00	2.05
Milk powd, 150 lb bbls.....lb.	.09	.12
MORPHINE Alk, 5 oz tin...oz.	10.90	10.95
Acetate, 5 oz tins.....oz.	8.75	8.80
Hydrobromide, 5 oz tins, 10 oz lots.....oz.	8.75	8.80
Hydrochloride, 5 oz tins, 10 oz lots.....oz.	8.75	8.80
Ethyl Hydrochloride, 5 oz tins 10 oz lots.....oz.	...	10.85
Sulfate, 5 oz tins, 10 oz lots .....oz.	7.85	8.00
Naphthalene Flake, 175 lb bbls wks.....lb.	.04½	.05
Balls, 250 lb bbls wks.....lb.	.05½	.06
Oxgall, Purified, 5 lb bot....lb.	1.75	2.50
USP, 5 lb bot.....lb.	2.00	2.50
Oxyquinoline Sulfate, tins...lb.	8.50	9.25
Pancreatin, USP, 100 lb....lb.	...	1.90
Paraffin, refd, 200 lb cs slabs 118 -120 deg MP.....lb.	.08	.09
128-132 deg MP.....lb.	.07½	.07½
Para-Aldehyde, USP, 100 lb. carboys.....lb.	.48	.50
Pepsin, USP, 100 lbs. 1:3000.lb.	...	2.25
100 lbs. 1:6000.....lb.	...	4.00
100 lbs. 1:10000 .....lb.	...	6.50
Peptone, powd, 5 lb bot.....lb.	...	1.50
PHENOBARBITAL, U. S. P., 1 lb. bot.....lb.	8.50	9.00
Phenolphthalein, U. S. P.....		
100 lb drums.....lb.	.72	.74
5 lb cans 100 lb lots..lb.	.80	.85
Yellow.....lb.	.67	.75
Pilocarpine Hydrochloride, USP, 1 oz vials 25 oz lots .....oz.	...	3.25
Nitrate, 25 oz lots.....oz.	...	3.25
Single ounce.....oz.	...	3.50
Alkaloid, 15 gr vials.....vl.	...	.75
Piperadine, 25 oz bottles.....lb.	...	8.00
Popodhyllin 5 lb bottles.....lb.	4.35	4.50
Potassium Acetate, USP, 100 lb kegs.....lb.	.29	.30
Bicarb, USP, crys 320 lb bbls .....lb.	.09½	.10
Bromide, USP, crys 100 lb cs .....lb.	.31	.32
Citrate, USP, 50 lb bbl....lb.	.42½	.43
Guaiacol Sulfonate.....lb.	1.95	2.25
Potassium Hypophosphite, 10 lb. cans.....lb.	.65	.70
Iodide, USP, 50 lb cases...lb.	...	2.90
Lactophosphate, 4 ox bot..lb.	...	.90
Permangan, USP, crys, 100 lb drs wks.....lb.	.16	.16½
Phosphate dibasic pure, kegs .....lb.	...	.49
Salicylate, 25 lb cans.....lb.	...	1.18
Sulfate, USP, VIII, 100 lb kegs.....lb.	.13	.15
Sulfocyanide, CP 15 lb jars lb.	...	.50
Tartrate, CP, tins.....lb.	...	.65
Pyrogallol, USP, see Acid Pyrogallic.....	...	...
Quinidine Alk, 100 oz tins...oz.	.75	.80
Sulfate, 100 oz tins.....oz.	...	.50
QUININE SULFATE, USP, 100 oz tins.....oz.	...	.40
1 oz tins, 100 oz lots....oz.	...	.50
Acetate.....oz.	...	.74
Arsenate.....oz.	...	.76
Benzoate.....oz.	...	.74
Bisulfate, USP.....oz.	...	.40
Citrate.....oz.	...	.50
Dihydrobromide.....oz.	...	.54
Dihydrochloride, USP....oz.	...	.54
Ethyl Carbonate, 16 oz tins .....oz.	...	.54
Ferrocyanide.....oz.	...	.74
Formate.....oz.	...	.72
Glycerophosphate.....oz.	...	.92
Hydrobromide, USP.....oz.	...	.50
Hydrochlorosulfate.....oz.	...	.54
Hypophosphite.....oz.	...	.70
Lactate.....oz.	...	.66
Phenolsulfonate.....oz.	...	.78
Phosphate.....oz.	...	.62
Salicylate, USP.....oz.	...	.52
Tannate, USP.....oz.	...	.40
Tartrate.....oz.	...	.74
Valerate.....oz.	...	.78
Urea Hydrochloride, USP.. .....oz.	...	.54
Rennet, N. F. 5 lb 1:25,000...lb.	2.95	3.50
Resorcinol, USP, 25 lb cans..lb.	1.57	1.65
Rochelle Salt, USP, 225 lb bbl .....lb.	.15	.15½
Rock Sugar, 5 lb boxes.....lb.	...	.15
Saccharin, USP, 10 lb cans...lb.	1.70	1.80
USP, Soluble, 10 lb cans...lb.	1.75	1.85
Salicin, USP.....lb.	...	12.50
SALOL, USP, 100 lb drums..lb.	...	.90
Saltpetre, powd, bbls wks....lb.	.06½	.08½
Santonin, USP, bulk.....lb.	85.00	93.00
Saponin, refined.....lb.	1.30	1.50
Seidlitz Mixture, 250 lb bb..lb.	.12½	.13
Silver Metal, American.....oz.	...	.29½
Iodide, 16 oz lots.....oz.	...	.69
Nitrate, 100 oz bottles....oz.	.22	.23
Nucleinate, bulk.....oz.	...	.37
Proteinate.....oz.	.39	.41
SODIUM BENZOATE, USP, 100 lb bbls.....lb.	.42	.47
Bromide, USP, 100 lb kegs.lb.	.31	.32
Cacodylate, USP, 25 lb bot .....lb.	4.75	5.90
Citrate, USP, X 50 lb kegs.lb.	.34½	.36
USP VIII, 50 lb kegs....lb.	.28½	.30
Glycerophosphate, N.F., crys 25 lb cans.....lb.	1.27	1.33
Powder, 25 lb tins.....lb.	1.32	1.38
Soln, USP, 25 lb tins...lb.	1.05	1.15
Hypophosphite, USP, 25 lb cans.....lb.	.60	.65
Iodide, USP, 25 lb jars...lb.	...	3.50
Phosphate (Mono-Sodium), 100 lb kegs.....lb.	.28	.29
Di-Sodium USP, granular, 275 lb bbls.....lb.	.07½	.08
Pyrophosphate, 100 lb kegs .....lb.	...	.29
Salicylate, 100 lb kegs....lb.	...	.47
Sulfocarbolate, USP, 100 lb kegs.....lb.	...	.25
Sulfocyanate, CP crys, jars included.....lb.	...	.60
Spartein Sulfate, USP, 25 oz bulk.....oz.	.65	.70
Single oz vial.....oz.	.77	.90
STRONTIUM BROMIDE USP, 50 lb kegs.....lb.	.46	.47
Carb, 100 lb kegs wks....lb.	...	.20
Iodide, USP, 25 lb jars....lb.	...	4.00
Lactate, kegs.....lb.	.90	1.10
Nitrate, 600 lb bbls NY...lb.	.08	.08½
Imp. bbls NY.....lb.	.08	.08½
Salicylate, USP, 100 lb keg lb.	...	1.10
Strophanthin, USP, 1 oz vial.oz.	19.00	19.00
Crystals.....lb.	75.00	75.00
Strychnine Alk, USP crys, 100 oz tins.....oz.	...	.55
Powdered.....oz.	...	.45
Acetate.....oz.	...	.65
Arsenate, 25 oz cans.....oz.	...	.65
Glycerophosphite, USP ...oz.	...	.65
Hydrobromide..... .....oz.	...	.65
Hydrochloride.....oz.	...	.65
Hypophosphite.....oz.	...	.75
Nitrate, USP.....oz.	.55	.72
Phosphate.....oz.	...	.65
Sulfate, USP, powd.....oz.	...	.37
Sugar, refined, 275 lb bbl 100 lb	5.80	5.90
Milk, USP, 200 lb bbls...lb.	.18	.20
Sulfonethylmethane, USP, 10 lb boxes.....lb.	3.85	4.05
Sulonmethane, USP, 10 lb box .....lb.	2.65	3.85
Sulfur flwrs. washed, USP, 125 lb bbl.....lb.	...	.06
Iodide, USP, VIII, 5 lb bot lb.	...	4.55
TARTAR EMETIC, USP, 300 lb bbls.....lb.	.28	.30
Terebene, tins.....lb.	...	.85
Terpin Hydrate, USP, 100 lb kegs.....lb.	.33	.35
Theobromine Alk, 5 lb cans..lb.	1.90	2.20
Sod. Salicylate, 1 lb bot...lb.	...	2.10
Sod. Benzoate, 1 oz vials..oz.	...	1.00
Thymol, USP, 25 lb tins.....lb.	1.25	1.40
Iodide kegs.....lb.	...	4.75
Veratrine Alkaloid.....oz.	...	2.25
Sulfate, 1 oz vials.....oz.	...	2.25
Witch Hazel Ext., 50 gal bbl .....gal.	.60	.80
Zinc Carb, USP, 100 lb keg..lb.	.28	.31
Chloride, USP, 25 jars ex..lb.	.24	.29
Iodide, 5 lb bottles.....lb.	...	5.22
Oxide, USP, 100 lb bbls..lb.	.13	.14
Stearate, USP, 50 lb bbl..lb.	.16	.18
Sulfate, USP, 100 lb bbl..lb.	.08	.09
Sulfocarbolate, 100 lb kegs..lb.	.23	.26

Miscellaneous

Absorption Bases.....lb.	.60	.80
Castor Oil, odorless, bbls.....lb.	...	.12
Chalk drop, 175 lb. bbls.....lb.	...	.03½
Precip. light, 250 lb. cask..lb.	...	.04½
Heavy 540 lb. casks.....lb.	...	.02½
Bulk.....ton	...	5.00
English light, bags.....lb.	...	.04½
English light, casks.....lb.	.05½	...
Cocoa Butter, fingers..... 12 lb. box.....lb.	.24	.26
Cod Liver Oil Nor. 30 gal. bbls	18.00	20.00
Newfoundland.....bbl.	...	31.00
Collodion U. S. P. 30 lb. dr...lb.	...	.23
Colors certified; 1 lb. cans, 5 lb. cans		
Amaranth No. 107.....lb.	2.50	2.60
Brilliant Blue F.C.F.....lb.	12.75	13.00
Erythrosine No. 517.....lb.	16.50	17.00
Orange Ind. 85.....lb.	2.50	2.60
Ponceau 3R No. 56.....lb.	4.75	5.00
Tartrazine No. 94.....lb.	2.50	2.60
Corn Syrup 42° 50 gal. bbl. .....100 lb.	3.91	4.16
Gelatin, USP, Silver 100 lb. cases.....lb.	.55	.60
Pure Food, 50 lb. bbl.....lb.	.53	.55
Glucose, (grape sugar) dry 70° bags c-l NY.....100 lb.	3.14	3.24
Haarlem Oil, bot 6 gross cases .....gross	...	3.75
Imported, 5 gr. cs.....gross	...	3.50
Kaolin, Bags.....lb.	.06	.08
Colloidal Grade 200 lb. tin lined wooden drums....lb.	.15	.29
Mineral Oil White, 50 gal. bbls. 80-85 vis.....gal.	.45	.50
85-90 vis.....gal.	.65	.70
125-130 vis.....gal.	.75	.85
290 vis.....gal.	.80	.90
Russian 80-85 vis.....gal.	.55	.60
110-115 vis.....gal.	.70	.75
145-155 vis.....gal.	.78	.85
180-185 vis.....gal.	.83	.88
320-330 vis.....gal.	.85	.90
Olive Oil, Edible bbls.....gal.	1.45	1.55
Paraffin Wax, fully refined, slabs 125 @ 127 A.M.P. bags lb	...	.03½
130 @ 132 A.M.P. bags lb.	...	.03½
135 @ 137 A.M.P. bags lb.	...	.04½
Petrolatum, Lily White, USP, 400 lb. bbl .....lb.	.07½	.08½
Snow White USP, 400 lb. bbls.....lb.	.09	.10
Rice Starch, 140 lb bags....lb.	.09	.10
Soap Castile, bars 40 lb. Case .....Cs.	...	12.75
Powd. USP 250 lb. bbls...lb.	.26	.28
Green, USP, 450 lb. bbls...lb.	.07½	.07½
Neutral, powd. 200 lb. bbls.lb.	.18	.20
Talc, Italian, 220 lb bags...ton.	60.00	80.00
French, 220 lb bags.....ton.	40.00	45.00
Waxes, See Drugs & Spices		

Aromatics and Essential Oils

Acetophenene, CP, 1 lb bot	lb.	3.50	3.65
Aldehyde, C 8 (Otcyl) 1 lb bot	lb.	...	38.00
C 7, 1 lb bot	lb.	4.50	5.50
C 9 (Nonyl), 1 lb bot	lb.	...	56.00
C 10 (Decyl), 1 lb bot	lb.	...	36.00
C 14, 1 lb bot	lb.	...	18.00
C 16, 1 lb bot	lb.	...	16.00
AMYL ACETATE, pure, 25 lb cans	lb.	.43	.50
Butyrate, 1 lb bot	lb.	1.25	1.50
Butyrate, 5 lb bot	lb.	...	1.00
Cinnamate, 5 lb bot	lb.	9.50	9.75
Formate, 1 lb bot	lb.	...	1.75
Formate, 5 lb bot	lb.	...	1.60
Phenyl Acetate, 1 lb bot	lb.	4.50	5.00
Salicylate, 100 lb cbys	lb.	.75	.80
Imported	lb.	2.25	2.50
Anethol, 2 lb bot	lb.	1.00	1.25
Anisic Aldehyde, 1 lb bot	lb.	3.10	3.60
Benzaldehyde, USP, 40 lb cbys	lb.	...	...
50 lb cbys	lb.	1.35	1.45
FFC, 40 lb cbys	lb.	1.25	1.35
Benzoic Ether, see Ethyl Benzoate			
Benzophenone, 1 lb bot	lb.	1.75	2.25
Benzyl Acetate, 100 lb cbys	lb.	.60	.80
Alcohol, 5 lb bot	lb.	.85	.95
BENZYL BENZOATE		1.10	1.15
Medicinal, FFC	lb.	...	1.40
Buytrate, CP, 1 lb bot	lb.	9.25	9.50
Benzyl Cinnamate, 1 lb bot	lb.	7.00	7.25
Formate, 1 lb bot	lb.	3.15	3.25
Propionate, 1 lb bot	lb.	2.25	2.40
Succinate, 1 lb bot	lb.	5.25	5.50
Valerate, 5 lb bot	lb.	3.00	3.25
Borneol, 1 lb bot	lb.	1.35	1.85
Bornyl Acetate, 1 lb bot	lb.	1.50	2.60
Bromstyrol, 25 lb cases	lb.	3.75	3.85
Butyl Anthranilate dom, 1 lb bot	lb.		
Carvol, 5 lb bot	lb.	3.00	3.40
Cinnamic Acid, 5 lb cans	lb.	3.25	3.50
Alcohol liquid, 1 lb bot	lb.	2.50	2.60
Crystallizable	lb.	7.00	8.00
Aldehyde	lb.	2.25	2.50
Imported, 1 lb bot	lb.	7.75	9.00
Citral, 25 lb cans	lb.	1.65	3.00
Citronellal 1 lb bot	lb.	2.00	4.00
Citronelyl Acetate, 1 lb bot	lb.	4.25	4.50
Coumarin, 25 lb cans	lb.	3.50	4.00
DECYL ALCOHOL	lb.	22.00	25.00
Diphenyloxide, 25 lb tins	lb.	1.05	1.20
Diphenyl Methane	lb.	1.75	2.00
Dundecyl Alcohol	lb.	20.00	22.00
Ethyl Acetate, pure, 5 lb bot	lb.	.05½	.06½
Benzoate, 5 lb bot	lb.	1.25	1.50
Ethyl Butyrate, 5 lb bot	lb.	1.80	2.00
Caproate, 1 lb bot	lb.	3.25	3.50
Cinnamate, 1 lb bot	lb.	4.00	4.50
Formate, 5 lb bot	lb.	1.00	1.25
Methyl Paracresol, 1 lb bot	lb.	3.25	3.50
Phenyl Acetate, 5 lb bot	lb.	3.75	4.00
Valerate, 5 lb bot	lb.	...	3.75
Salicylate, 5 lb bot	lb.	1.95	2.00
Eucalyptol, USP, 50 lb cans	lb.	.55	.60
Eugenol, USP, 25 lb cans	lb.	2.50	3.00
Geraniol, 50 lb cases	lb.	1.75	2.35
Geranyl Acetate, 1 lb bot	lb.	2.75	2.80
Butyrate, 1 lb bot	lb.	13.00	13.50
Formate, 1 lb bot	lb.	12.00	12.50
Heliotropin, 100-10 lbs	lb.	1.65	1.75
Imported	lb.	1.95	2.05
Hydroxycitronellal, 1 lb	lb.	4.75	6.75
Indol, CP, 1 oz bot	oz.	2.90	3.00
IONONE, 1 lb bot 100%	lb.	5.00	6.00
Alpha	lb.	4.50	4.70
Beta	lb.	5.70	5.75
Methyl	lb.	5.00	5.25
Iso Borneol	lb.	2.25	2.35
Iso Bornyl Acetate	lb.	3.00	3.20
Iso-Butyl Benzoate, 5 lb bot	lb.	2.75	3.00
Iso-Eugenol, 1 lb bot	lb.	3.50	3.55
Iso-Safrol, 1 lb bot imp	lb.	1.75	1.85
Domestic, 5 lb bot	lb.	3.50	3.75
Linaiol from Bois de Rose, 5 lb bot	lb.	1.50	3.50
Linalyl Acetate, 1 lb bot	lb.	2.00	2.10
Benzoate, 1 lb bot	lb.	13.00	14.00
Formate, 5 lb bot	lb.	10.50	12.00
METHYL ACETOPHENONE	lb.	2.00	2.15
Anthranilate, 1 lb bot	lb.	2.15	2.20
Imported	lb.	2.70	2.75
Anthranilic Acid	lb.	8.25	8.50
Benzoate, 5 lb bot imp	lb.	1.25	1.35
Domestic, 5 lb bot	lb.	1.25	1.35
Cinnamate, 1 lb bot	lb.	3.35	3.85
Heptenone, 1 lb bot	lb.	3.50	4.00
Paracresol, 1 lb bot	lb	4.50	8.00
Phenylacetate, 5 lb bot	lb	2.50	2.75
Salicylate, USP, 500 lb dr	lb.	...	.40
50 lb cases	lb.	...	.42
Mirbane rect. 1,000 lb drs	lb.	.12	.13
Musk Ambrette 1 lb cans	lb	6.00	6.25
Ketone 1 lb cans	lb	7.55	7.80
Xylene 5 lb cans	lb.	2.25	2.85
Nerolin 1 lb cans	lb.	1.35	1.40
Octyl Alcohol 1 lb bot	lb.	16.00	18.00
Oenanthic Ether lb bot	lb.	1.90	2.00
Oleoresin Aspidum, USP, bot and tins	lb.	...	1.25
Capsicum, USP, bot and tins	lb.	2.15	2.25
Cubeb, USP, bot and tins	lb.	2.50	2.75
Ginger bot and tins	lb.	2.25	2.75
Malefern see Aspidum			
Orris, bot & tins	lb.	12.00	15.00
Pepper, black, USP, bot & tin	lb.	...	9.50
Vanilla, bot & tins	lb.	7.00	7.75
Paracresol Methyl Ether	lb.	4.25	4.50
Paracresyl Acetate	lb.	5.50	5.75
Para Cymene Refd 110 gal dr	gal.	2.25	2.50
PHENYLACETALDEHYDE 50% 1 lb bot	lb.	4.50	4.75
Imported 50%	lb.	4.50	4.75
100%	lb.	8.00	8.25
Phenylacetic Acid 1 lb bot	lb.	2.65	2.90
Phenyl Diacetate 1 oz bot	oz.	3.00	3.25
1 lb bot	lb.	8.00	10.00
Imported	lb.	7.00	7.75
Phenylethyl Alcohol 1 lb bot	lb.	4.40	4.65
Phenyl Ethyl Acetate	lb.	8.25	8.75
Butyrate 1 lb bot	lb.	15.00	16.00
Formate, 1 lb bot	lb.	19.00	21.00
Propionate, 1 lb bot	lb.	10.00	12.00
Valerate, 1 lb bot	lb.	14.00	15.00
Phenylpropylalcohol, 1 lb bot	lb.	8.50	9.00
Rhodinol, 1 lb bot	lb.	7.00	8.00
Saffrol, drums	lb.	.30	.32
60 lb cans	lb.	.32	.34
Skatol, 1 oz bot	lb.	4.50	7.00
Terpinyl Acetate, 25 lb cans	lb.	.85	.90
Imported, 25 lb cans		.85	.90
TERPINEOL, CP, 1000 lb drs	lb.	.27	.29
50 lb cans	lb.	.31	.33
Absolute, 25 lb cans	lb.	.48	.50
Imported, 25 lb cans	lb.	.58	.60
Valerianic Ether see Ethyl Valerate			
Vanillin (Clove Oil), USP (Guaiacol) USP	lb.	5.50	5.75
	lb.	5.00	5.25

Essential Oils

Almond Bitter, USP, 5 lb bot	lb.	2.15	2.25
Bitter, ffPA, 5 lb bot	lb.	2.25	2.40
Sweet, 56 lb cans	lb.	.34	.37
Almond Meal, 25 lb cans	lb.	.20	.21
Amber crude, 25 lb tins	lb.	.15	.17
Rectified, 25 lb tins	lb.	.50	.53
Amber liquid, 400 lb drs	lb.	2.20	2.30
Ambergris, Black, boxes	oz.	14.00	15.00
Gray boxes	oz.	32.00	36.00
Angelica Root, 1 lb bot	lb.	20.00	30.00
Anise Tech, 400 lb drums	lb.	.32	.34
USP, 60 lb cans	lb.	.36	.38
Apricot Kernel, 50 lb cans	lb.	.22	.23
Bay, 25 lb tins N. F. V., 50.55% Phenol	lb.	1.70	1.85
Terpeneless	lb.	4.25	4.45
BERGAMOT, 25 lb coppers	lb.	1.90	2.10
Terpeneless	lb.	6.25	9.25
Artificial, 25 lb cans	lb.	1.25	1.50
Birch, Sweet, Northern, 25 lb tins	lb.	3.00	3.10
Southern, 25 lb tins	lb.	...	1.85
Birch Tar, rect., 5 lb bot	lb.	.50	.55
Crude, 50 lb tins	lb.	.13	.14
Bois de Rose, tins Brazillian	lb.	.62	.67
Cayenne, tins	lb.	1.35	1.65
Cade, 25 lb cans	lb.	.25	.26
Cajuput, native, 50 lb tins	lb.	.55	.60
Calamus, 5 lb bot	lb.	2.75	3.00
Camphor Sassa, 1000 lb drs	lb.	.14	.16
White, 400 lb drs	lb.	.13	.14
Cans, 50 lbs	lb.	.14	.16
CANANGA, Native 25 lb tins	lb.	1.35	1.50
Rectified, 25 lb tins	lb.	1.85	1.95
Caraway, USP	lb.	1.35	1.40
Cardamon, NF, 1 lb bot	lb.	15.00	16.00
Cascarilla, USP, 1 lb bot	lb.	60.00	75.00
Cassia, Redist, USP, 50 lb cans	lb.	.95	1.00
Cedar Leaf, 50 lb tins	lb.	.72	.82
Cedar Wood, light, 1000 lb drs	lb.	.30	.32
Celery, 1 lb bot	lb.	...	7.50
Chaulmoogra, USP 80 lb cases	lb.	...	1.50
Cinnamon Ceylon, 1 lb bot	lb.	9.00	10.00
Leaf, 5 lb bot	lb.	1.85	1.95
CITRONELLA Ceylon, 1000 lb drs	lb.	.30	.32
50 lb tins	lb.	.32	.34
Java, 400 lb drs	lb.	.48	.50
50 lb tins	lb.	.50	.52
Civet, Abyssin, horns	oz.	2.10	3.00
Cloves, USP, 50 lb cans	lb.	.90	.95
6 lb bot	lb.	.95	1.00
Copaiba	lb.	.45	.50
Coriander, USP, 10 lb bots	lb.	3.90	4.15
Croton USP, 25 lb tins	lb.	2.60	2.85
Cubebs, USP, 5 lb bot	lb.	2.55	2.65
Cumin, 1 lb bot	lb.	7.00	7.50
Dill, 25 lb cans	lb.	3.15	4.65
Erigeron, 20 lb tins	lb.	.95	1.05
EUCALYPTUS Austl, USP, 56 lb cans, cases	lb.	.25	.26
500 lb drs	lb.	.23	.24
Fennel, USP, 25 lb tins	lb.	.95	1.10
Geranium African, 25 lb tins	lb.	4.00	4.90
Bourbon, 28 lb tins	lb.	4.00	4.75
Turkish, 28 lb tins	lb.	1.75	1.90
Ginger, 1 lb bot	lb.	3.75	4.00
Gingergrass, 28 lb tins	lb.	2.50	2.70
Grape Fruit	lb.	2.90	3.00
Hemlock, 25 lb tins	lb.	.85	1.00
Juniper Berries, USP, 25 lb tins	lb.	1.25	1.30
Wood, 50 lb tins	lb.	.50	.60
Labdanum, 5 lb bot	lb.	5.50	6.00
LAVENDER, USP, 28 lb tins	lb	1.75	2.00
Spike Spanish, 50 lb cans	lb.	.48	.68
Lemon Ital, 25 lb cans	lb.	1.00	1.30
California 35 lb cbys	lb.	.90	.95
Lemongrass, native, 50 lb cans	lb.	.46	.48
Limes, expressed, 25 lb tins	lb.	11.00	12.75
Distilled, 25 lb tins	lb.	6.25	8.00
Linaloe Mex., 70 lb cases	lb.	...	1.40
Mace, distilled, 50 lb tins	lb.	.85	.90
Mandarin, 25 lb cases	lb.	4.20	4.70
Musk Pods Cabardine, tins	lb.	...	...
Musk Tonquin, tins, Pods	oz.	24.00	26.00
Grains Cabardine, tins	oz.	...	...
Tonquin, tins, Grained	oz.	28.00	34.00
MUSTARD, USP, 1 lb bots	lb.	8.50	9.00
Artif, USP, 5 lb bot	lb.	1.50	1.60
Neroli Bigarade, ¼ & ½ & 1 lb bot	lb.	80.00	110.00
Petale, 1 lb bot	lb.	95.00	105.00
Artificial, 1 lb bot	lb.	5.00	15.00
Nutmeg, USP, 50 lb tins	lb.	.85	.90
ORANGE BITTER, 25 lb tins	lb	1.50	1.90
Sweet W Ind, 25 lb tins	lb	1.25	1.50
Italian, 25 lb cop	lb	1.45	1.90
Orange American, Cold pressed 25 lb tins	lb.	1.60	1.70
Distilled, 25 lb tins	lb.	.90	1.00
Spanish, 25 lb tins	lb.	...	1.50
Oil Orris, concrete	oz.	4.00	4.25
Origanum, 50 lb cans tech	lb.	.25	.27
Parsley, 1 lb bot	lb.	6.50	6.75
Patchouli, 5 lb bot	lb.	3.75	4.10
Pennyroyal, dom, 25 lb tins	lb.	1.70	1.90
Imported, 25 lb tins	lb.	...	1.15
Pepper Black lb.,		...	6.00
Peppermint, nat. 60 lb cases	lb.	1.45	1.55
Redis, USP, 60 lb cs	lb.	1.65	1.70
Petit Grain S A., 25 lb tins	lb.	.95	1.05
French, 1 lb bot	lb.	4.50	4.75
Italian, 25 lb tins	lb.	2.20	2.30
Pimento Leaf, 25 lb tins	lb.	1.30	1.45
Berries, 25 lb tins	lb	3.00	3.10
Pine Needle Siberian, cans	lb.	.60	.65
Pinus, Sylvestris, 25 lb tins	lb.	1.30	2.00
Pumilio, USP, 25 lb tins	lb.	1.90	1.95
Rose Fr, 8, 16, & 32 oz pkgs	lb.	14.00	17.00
Bulg, 8, 10 & 32 oz pkgs	oz.	7.25	13.50
Rosemary, USP, 27½ lb tins	lb.	.34	.40
1000 lb drums	lb.	.32	.42
Tech, 25½ lb tins	lb.	.28	.30
Rue, 1 lb bot	lb.	2.25	2.50
SANDALWOOD, E Ind, USP, 100 lb case	lb.	6.25	7.25
W Indian (Amayris), 25 lb tins	lb.	2.85	2.95
Australian, Tins		5.65	5.65
Sassafras, USP, 50 lb cans	lb.	1.05	1.07
Artificial, 1000 lb drs, 60 lb cans	lb.	.23	.25
Safrol, cans	lb.	.28	.30
Sage, Dalmatian, 25 lb. cans	lb.	2.15	2.25
Savin, 50 lb tins	lb.	2.00	2.25
Snakeroot, Canada	lb.	8.25	8.50
SPEARMINT, USP, 50 lb tins	lb	1.10	1.15
Spruce, 50 lb tins	lb	.85	.90
Tansy, American, 25 lb tins	lb.	1.95	2.10
Tar, 50 gal bbls	lb.	.25	.30
USP, 50 gal bbls	lb.	.75	1.50
Thyme, red, NF, 25 lb tins	lb.	.80	.95
White, NF, 25 lb tins	lb.	.90	1.00
Tech, 110 lb drums	lb.	.70	.75
Turpentine, USP, rect cbys	lb.	.27	.30
Vetivert Bourbon, 10 bot	lb.	4.75	5.00
Indian, 1 lb bot	lb.	25.00	38.00
Java, 1 lb bot	lb.	12.00	13.00
Wine, heavy, 1 lb bot	lb.	1.50	1.60
WINTERGREEN Gaultheria, true, 25 lb tin	lb.	8.00	10.00
Southern, 25 lb tins	lb.	3.75	4.00
Synthetic see Methyl salicylate			
Wormseed, Balt, 25 lb tins	lb.	1.75	1.90
Wormwood, dom, 25 lb tins	lb.	3.85	4.10
Ylang Ylang Bourbon, 10 lb tins No. 1	lb.	5.00	5.25
10 lb tins No. 2	lb.	4.50	4.55
Manila, 1 lb bot	lb.	24.00	30.00

Drugs and Spices

Aconite Root, USP, bags	lb.	.13 .14
Agar Agar, No. 1, bales	lb.	.67 .70
Agar Agar No. 2, bales	lb.	.62 .65
Almonds Meal	lb.	.23 .28
Aletris Root, bags	lb.	.16 .18
Alkanet Root, bags	lb	.09 .10
ALOES, Cape, 400 lb cases	lb.	.11 .12
Curacao, 140 lb cases	lb.	.15 .17
Socotrine, Whole, 300 lb cs	lb.	.32 .37
Althea Root, bags	lb.	.19 .21
Cut cases	lb.	.17 .24
Angelica Root, bags	lb.	.12 .13
Angostura Bark, bags	lb.	.17 .18
Anise Star case	lb.	.15 .17
Spanish, bags	lb	.07 .08
ARABIC GUM, White, No. 1, 220 lb bags	lb.	.14 .15
Seconds, 220 lb bags	lb.	.13 .14
Sorts, Amber, 220 lb bags	lb.	.06¾ .07¼
Powd, USP, 300 lb bbls	lb.	.12 .15
Areca Nuts, 100 lb bbls	lb.	.05 .07
Powd, 100 lb bbls	lb.	.10 .11
Arnica Flowers, bales	lb.	.08 .09
Root, bags	lb.	.42 .43
Arrowroot, St. Vincent, powd bbls	lb.	.10 .11
Asafoetida, 250 lb cases	lb.	.17 .18
Powd, 50 lb boxes	lb.	.28 .29
Balm Gilead Buds, bags	lb.	.22 .23
Balmony Herbs, bales	lb.	.12 .14
BALSAM COPAIBA Para, 80 lb cases	lb.	.16 .17
South American, USP, 80 lb cases	lb.	... .24
Peru, 120 lb cases	lb.	1.05 1.10
Tolu, 90 lb cases	lb.	.75 .85
Barberry Bark, of root, bags	lb.	.16 .17
Bayberry Bark, bales	lb.	.08 .09
Wax bbls	lb.	.17 .19
BELLADONNA LEAVES, bale	lb.	.12 .14
Root, bags	lb.	.11 .12
Bees Wax, White, cases	lb.	.36 .40
Yellow refined cases	lb.	.22 .25
Yellow Crude Bags	lb.	.16 .17
Benzoin Gum, Siam, boxes	lb.	1.15 1.25
Sumatra, cases	lb.	.24 .26
Berberis Aquafolium Root, bags	lb.	.08 .09
Beth Root, bags	lb.	.08 .09
Black Indian Hemp Root, 100 lb bags	lb.	.10 .11
Blood Root, bags	lb.	.10 .11
Blueflag Root, bags	lb.	.12 .13
Boldo Leaves, bales	lb.	.15 .17
Boneset Herb, bales	lb.	.08 .09
Borage Flowers, bales	lb.	.16 .18
Broomtop Herb Cut, bales	lb.	.07 .08
Bryonia Root, bags	lb.	.09 .10
BUCHU LEAVES Short, 250 lb bales	lb.	.18 .19
Long bales	lb.	.75 .80
Buckbean Leaves, bales	lb.	.08½ .09
Buckthorn Bark, bags	lb.	.05 .06
Berries, bags	lb.	.29 .34
Burdock Root, bags	lb.	.07 .08
Seed bags	lb.	.30 ...
Burgundy Pitch, 110 stand gross for net	lb.	.08 .09
Imported	lb.	.10 .11
Calabar Beans, bags	lb.	.15 .16
Calamus Root, blchd cases	lb.	.28 .33
Unbleached, bags	lb.	.07 .08
Calendula Petals, imp bales	lb.	.28 .33
Calisaya Bark, bales	lb.	.19 .20
Powdered, bbls	lb.	.25 .26
Canary Seed, South America, bags	lb.	.05 .05½
Dutch, bags	lb.	.05 .06
Candelilla Wax, bags	lb.	.14 .16
Cannella Alba Bark, bales	lb.	.25 .26
Cannabis, U.S.P.	lb	.17 .24
Cantharides, Chinese, cases	lb.	.85 .90
Powdered, boxes	lb.	1.00 1.05
Russian, cases	lb.	1.50 1.90
Powdered, boxes	lb.	1.65 2.00
Caraway Seed, African, bags	lb.	.04¾ .05¾
Dutch, 11 lb bags	lb.	.06½ .06¾
Cardamon bleached, cases	lb.	1.00 1.05
Decorticated, cases	lb.	.58 .60
Carnauba Wax No. 1, 100 lb. bags	lb.	.23 .25
Cascara Amarga, 150 lb bbls	lb.	Nom ...
So called bales	lb.	.50 .75
CASCARA SAGRADA, 1929 bark	lb.	.17 .18
1930 bark	lb.	.16½ .18
1931 bark	lb.	.09 .09½
Cascarilla Bark, quills, bales	lb.	.70 .80
Siftings, bbls	lb.	.65 ...
Cassia Batavia No. 1 bbls	lb.	.07 .07½
Shortstick, bales	lb.	.06 .06¼
Batavia No. 3, bales	lb.	.05½ .06
China Select Rolls, cases	lb.	.02¾ .03½
Broken, bales	lb.	.05½ .05¾
Saigon, thin	lb.	.19½ .20
Buds, cases	lb.	.17 .18
Fistula, baskets	lb.	.09 .10
Catnip, Herb, bales	lb.	.15 .16
Celery Seed, bales	lb.	.21 .22
Ceresin Wax, White, bags	lb.	.10 .15
Yellow 200 lb. bags	lb.	.09 .12
Imp white 100 lb. bags	lb.	.25 .38
CHAMOMILE FLOWERS Roman, bales	lb.	.30 .33
Hungarian, cases	lb.	.15 .17
Charcoal Willow, powd, bbls	lb.	.06 .06½
Wood, powd, bbls	lb.	.04 .05
Chestnut Bark	lb.	.07 .08
Leaves bales	lb.	.05 .06
Chicle Gum, 200 lb. bales	lb.	.32 .49
Chiretta, bales	lb.	.13 .16
Cinnamon, Ceylon, No. 1, bales	lb.	.12 .14
No. 2 bales	lb.	.09½ .10
No. 3 bales	lb.	.11½ .12
Clover Tops, Red, bags	lb.	.10 .12
Cloves Zanzibar, 135 lb bbl	lb.	.11¾ .12
Cochineal, Black	lb.	.69 ...
Silver	lb.	.75 ...
Cohosh Root, Black, bags	lb.	.05 .06
Blue, bags	lb.	.06 .07
Colchicum Root, bags	lb.	.10 .12
Seed, bags	lb.	.60 .65
COLOMBO ROOT, bags	lb.	.05 .06
Colocynth Pulp, bales	lb.	.16 .17
Coltsfoot Leaves, bags	lb.	.06 .07
Comfrey Root, bags	lb.	.10 .11
Condurango Bark, bags	lb.	.09 .10
Coriander Seed, Morocco, bags	lb.	.05 .05½
Bleached, bags	lb.	.07 .08
Corn Silk, bales	lb.	.05 .06
Cotton Root Bark, bales	lb.	.06½ .07
Cowhage, 1 oz tins	lb.	1.00 ...
Cramp Bark so called bales	lb.	.05 .06
True, bags	lb.	.26 .28
Cranesbill Root, bags	lb.	.07½ .08
CUBEB BERRIES, XX bags	lb.	.32 .33
Powdered, boxes	lb	.34 .35
Culvers Root, bags	lb.	.10 .11
Cumin Seed, Malta, bags	lb.	.12½ .12¾
Morocco, bags	lb.	.05 .06
Cuttlefish, Bone Trieste, Straps	lb.	.19 .22
French, boxes	lb.	.18 .21
Powdered, bbls	lb.	.09 .10
Broken, bales	lb.	.07 ...
Damiana Leaves, bales	lb.	.15 .16
Dandelion Root, Imp. bags	lb.	.10 .11
Deer Tongue Leaves, bales	lb.	.08 .10
Digitalis Leaves, bales	lb.	.10 .14
Dogwood Bark, Jamaica bags	lb.	.08 .09
American bales	lb.	.06½ ...
Doggrass Root, USP, cut bags	lb.	.14½ .15
Dragons Blood Mass, cases	lb.	.80 .85
Reeds, boxes	lb.	.90 .95
Echinacea Root, bags	lb.	.16 .17
Elcampane Root, bags	lb.	.06 .07
Elder Flowers, bags	lb.	.18 .21
Elemi Gum, 85 lb cases	lb.	.09½ .10
Elm Bark, bundles	lb.	.18 .21
Grinding bags	lb.	.09 .10
Powdered, bbls	lb.	.15 .17
Ephedra Vulgaris, bales	lb.	.05 .06
ERGOT, 150-200 lb bags	lb.	.47 .58
Eucalyptus Leaves, bales	lb.	.05 .06
Euphorbia Pilulifera, Herb, bags	lb	.05 .08
Euphorbium Gum, cases	lb.	.14 .20
Fennel Seed, French, bags	lb.	.07 .07½
German bags	lb.	.08 .10
Foenugreek Seed, 200 lb bags	lb.	.04 .04¼
Fish Berries, 100-125 lb bag	lb.	.11 .12
Flax Seed, Whole 182 lb bbls	lb.	.06½ .07½
Ground, 180 lb bbls	lb.	.07 .09
Fringe Tree Bark or Root bags	lb.	.10 .12
Fumigating Pastiles, boxes	lb.	.28 .33
Galangal Root, bags	lb.	.08 .09
Galbanum Gum, cans	lb.	1.00 1.05
Gamboge Gum, 100 lb cases	lb.	.65 .70
Powdered, cases	lb.	.70 .75
Gelsemium Root, bags	lb.	.07 .08
GENTIAN ROOT, bags	lb.	.07 .08
Ground bbls, boxes	lb.	.10 .11
Powdered, bbls, boxes	lb.	.10 .11
Ginger, African, bags	lb.	.04½ .04¾
Jamaica Grinding bags	lb.	.08¼ .08¾
Cochin ABC & Lemon, bags	lb.	.07¼ .07¾
Ginseng Root, cultivated cs	lb.	8.00 10.00
Wild Southern, cases	lb.	11.00 13.00
Golden Seal Root, bags	lb.	.70 .75
Powdered, boxes	lb.	1.00 1.10
Herb, barrels	lb.	1.05 1.15
Grains of Paradise, bags	lb.	.12 .14
Grindelia Robusta, Herb, bale	lb.	.07 .08
Guaiac Gum, 150 lb cases	lb.	.25 .26
Strained 75 lb cases	lb.	.70 .75
Guarana, tin cases	lb.	.75 1.00
Hellebore Root, Black, bbls	lb.	.05½ .06
White, 250 lb bbls	lb.	.14 .15
Powdered	lb.	.18 .19
Helonias Root, bags	lb.	.28 .30
Hemp Seed, bags	lb.	.03¼ .03½
Henbane Leaves, USP, bales	lb.	.08 .09
HENNA LEAVES, bales	lb.	.07 .08
Powdered	lb.	.10 .12
Hops, bales	lb.	.21 .24
Horehound, Herb, bales	lb.	.06½ .07½
Hydrangea Root, bales	lb.	.07 .08
IPECAC ROOT, Carteagna, bags	lb.	.85 .90
Powdered, 220 lb bbls	lb.	.95 1.00
Nicaraugua 125 lb. bags	lb.	.55 .65
Isinglass, American, 130 lb cases	lb.	.95 1.00
Russian (Beluga), boxes	lb.	4.50 ...
Jaborandi Leaves, bales	lb.	.10 .11
Jalap Root, Whole, 150 lb bag	lb.	.18 .20
USP, Powd, 250 lb bbls	lb.	.23 .26
Japan Wax 224 lb. cases	lb.	.09 .10
JUNIPER BERRIES, 125 lb bags	lb.	.04½ .05
Kamala, boxes	lb.	.35 .40
Karaya Gum, No. 1 Powdered, bbls	lb.	.12½ .13
Kava Kava Root, bags	lb.	.13 .14
Kino Gum, Black, cases	lb.	.50 .55
Kola Nuts, 150 lb bags	lb.	.05½ .06
Lady Slipper Root, bags	lb.	.30 .35
Larkspur Seed, bags	lb.	.28 .30
Laurel Berries, bags	lb.	.08 .09
Leaves, Greek, bags	lb.	.05 .05½
Italian, bales	lb.	.08 .09
Lavender Flowers, Ordinary	lb.	.22 .25
Selected	lb.	.30 .32
Lemon Peel, bags	lb.	.08 .09
LICORICE ROOT, Whole bbls	lb.	.12 .15
Spanish Natural bales	lb.	.05½ .07
Powdered, bbls	lb.	.08 .10
Selected Cases	lb.	.12 .15
Cutting, 125 lb bags	ln.	.06 .06½
Turkish, 150 lb bales	lb.	.05 ...
Linden Flowers with leaves, bales	lb.	.18 .19
Without leaves, bales	lb.	.21 .22
Liverwort Leaves, bales	lb.	.13 .14
Lobelia, Herb, bales	lb.	.09 .10
Seed, bags	lb.	.21 .26
Lovage Root, Imp., bags	lb.	.15 .17
Lupulin N. F., tins	lb.	1.25 1.30
Lycopodium, 88 lb. cases	lb.	.26 .28
MACE SIAUW, No. 1, cases	lb.	.28 .29
Banda No. 1, cases	lb.	.35 .36
Batavia No. 2, cases	lb.	.31 .32
Malva Flowers, Blue, bales	lb.	.85 .90
Black, bales	lb.	.25 .40
Leaves, bales	lb.	.12 .13
Manaca Root, bales	lb.	.20 .21
Manna, Large Flake, cases	lb.	.50 .56
Small Flake, cakes	lb.	.30 .35
Sorts, cases	lb.	.45 .50
Mandrake Root, bags	lb.	.08 .09
Marjoram, Herb		
French, No. 1 bales	lb.	.11 .11½
German, bales	lb.	.12 .12½
Mastic Gum, 120 lb. cases	lb.	.36½ .37
Matico Leaves, bales	lb.	.19 .22
Mezereon Bark, bags	lb.	.15 .16
Millet Seed, Yellow, bags	lb.	.02¾ .03
Montan Wax, Crude, bags	lb.	.05 .06
Bleached, pure, bags	lb.	.26 .28
Moss, Iceland, bales	lb.	.09 .11
Irish, Bleached, bales	lb.	.10 .12
Mullein Flowers, tins	lb.	.75 .80
Leaves, bales	lb.	.07 .07½
Musk Root, Russian, bags	lb.	.06½ .07½
Myrrh Gum, 200 lb, cases	lb.	.18 .20
Nutgalls, Chinese, bags	lb.	.22 ...
Aleppy, bags	lb.	... .20
Powdered, bags	lb.	.13 .15
Nutmegs, 110's cases	lb.	.11½ .12
75's & 80's cases	lb.	.13½ .14
Grinding, bags	lb	.18 .19
NUX-VOMICA Buttons, bag	lb.	.05 .06
Powdered, 200 lb bbls	lb.	.08 .09
Oak Bark, bags	lb.	.06 .06½
Olibanum Gum, 280 lb cases	lb.	.07 .08
Siftings	lb.	.26 .28
Tears, No. 1 Extra	lb.	.16 .18
No. 2	lb.	.12 .13
No. 3	lb.	12.00 13.00
Opium Gum, USP, cases	lb.	13.00 14.00
Granular, cans	lb.	13.00 14.00
Powdered, USP, cans	lb.	.25 .30
Orange Flowers, cases	lb.	.08 .09
Peel, Bitter, bags	lb.	.07 .08
Sweet bags	lb.	.11 .12
ORRIS ROOT, Flor. bid. bags	lb.	.14 .15
Powdered, 200 lb bbls	lb.	.09 .09½
Verona, bags	lb.	.12 .13
Powdered, 200 ib bbls	lb.	.90 .95
Fingers, boxes	lb.	... ...
Ozokerite Wax, Brown, Hard	lb.	.24 .25
Bags	lb.	.25 .27
Green, Hard, bags	lb.	.20 .25
Yellow, Refined, bags	lb.	1.80 1.85
Papain, Crude, 150 lb cases	lb.	1.90 1.95
Pure, Powdered, 10 lb bot	lb.	.17½ .18
Paprika, bags	lb.	.13 .14
Pareira Brava Root, bags	lb.	.04½ .05½
Passion Flower, bales	lb	.15 .16
Patchouli Leaves, bales	lb.	.08 .09
Pennyroyal, Herb, 100 lb bags	lb.	.12 .13
Leaves, 100 lb bags	lb.	

PEPPERMINT LEAVES, Imp bales lb.	.30	.40
Domestic, bales lb.	.20	.24
Pichi Leaves, bags lb	.08	.09
Pimento Select, bags lb.	.05½	.06
Pink Root, True, bags lb.	.25	.27
Pleurisy Root, bags lb.	.13	.14
Poke Berries, bags lb.	.14	.15
Root, 200 lb bales lb.	.06	.06½
Pomegrant Bark of Root, bags lb.	.28	.30
Bark of Fruit, bags lb.	.20	.25
Bark of Tree, bags lb.	.15	.18
POPPY FLOWERS, Red, bags lb.	.55	.60
Prickly Ash Bark lb.	.12	.15
Southern bags lb.	.11	.11½
Northern, bags lb.	.11	.12
Berries, bags lb.	.20	.21
Prince's Pine, bales lb.	.15	.20
Psyllium Seed, Black, bags lb.	.20	.22
Plantago Seed, Blonde, Bags lb.	.08	.10
Pulsatilla, Herb, bags lb.	.10	.11
Pumpkin Seed, bags lb.	.11	.12
Pyrethrum Flowers lb.	.16	.17
Pwd., pure, 200 lb.bbls. lb.	.21	.22
Quassia Chips, bags lb.	.05½	.06
Quebracho, bulk, 125 lb. bbl. lb.	.20	.21
Quince Seed, Spanish bags lb.	1.05	1.30
Persian, bags lb	1.25	1.70
Rape Seed, South American, bags lb.	.05½	.06
Dutch, bags lb.	.06	.06½
Raspberries, Dried, bbls lb.	.40	.45
Red Saunders, bags lb.	.08	.09
Rhatany Root, bags lb.	.10	.11
Rhubarb Root, HD, cases lb.	.18	.19
Powdered, bbls lb	.23	.24
Rosemary Leaves, bales lb.	.05	.05½
Flowers, cases, bales lb.	.28	.32
Rose Petals, pale lb.	.14	.15
Red lb.	.45	.50
Rue, Herb, bales lb.	.18	.20
Sabadilla Seed, bags lb.	.17	.18
Powdered, bbls lb.	.18	.18½
SAFFRON FLOWERS, American, bales lb.	.19	.20
Valencia, 1 lb cans lb.	9.00	9.25
Sage Dalmatian, bales lb.	.05½	.06
Sandarac Gum, 300 lb bbls lb.	.23	.30
Sarsaparilla Root, Honduras, bales lb.	.60	.65
Mexican, bales lb.	.12½	.13½
Sassafras Bark, Ordinary, bales	.08	.10
Select, bales lb.	.16	.17
Savory Leaves, bale lb.	.05¾	.06½
Saw Palmetto Berries, bags lb.	.07	.08
Scammony Resin, boxes lb.	1.30	1.35
Root, bags lb.	.07	.08
Senega Root, bags lb.	.29	.31
SENNA ALEX., 150 lb cases lb.	.20	.25
Half leaf 150 lb bales lb.	.10	.12
Sifting, 400 lb bales lb.	.08	.09
Tinnevelly, Bold, 350 lb bales lb.	.10	.12
Medium Leaf lb.	.08	.09
Small Leaf, lb.	.06	.08
Pods, 350 lb lb.	.09	.10
Powdered, 200 lb lb.	...	.11
Serpentaria Root, bags lb.	.32	.33
Simaruba Bark, bales lb.	.24	.26
Skullcap Leaves, Eastern, bales lb.	.28	.33
Western, bales lb.	.17	.27
Skunk Cabbage, Natural, bales lb.	.12	.14
Snake Root, Canada Natural, bags lb.	.18	.19
Canada, Stripped, bags lb.	...	.50
Soap Bark lb.	.08	.09
Cut, 125-175 lb bags lb.	.07	.08
Crushed, 200 lb bbls lb.	.16	...
Powdered, bbls. lb.	.12	.13
Spearmint Leaves, American, bales lb.	.18	.19
Spermaceti, blocks, cakes, cases lb.	.21	.23
Bulk lb.	.20	.22
Spikenard Root, bags lb.	.07	.08
Squaw Vine, bales lb.	.11	.12
Squills, White, tested lb.	.05	.06
Powdered, bulk lb.	.14	.16
Stavesacre Seed, bags lb.	.13	.14
Stillingia Root, bags lb.	.07	.08
Stone Root, bags lb.	.07	.08
St. Ignatius Beans, bags lb.	...	.85
St. John's Bread, bags lb.	...	.09
STRAMONIUM LEAVES, bales lb.	.09½	.10
Seed, bags lb.	.07½	...
Strophanthus Seed, Kombe, bags lb.	1.75	1.95
Styrax Liquid, Artificial lb.	.26	.35
Genuine, USP lb.	.38	.43
Sunflower Seed, bags Calif. lb.	.04¾	.05
South American, bags lb.	.07	.07½
Tamarinds, bbls lb.	.05	.06
Kegs keg	3.75	3.85
Tansy, Herb, bales lb.	.12	.13
Thus Gum, 450 lb bbls lb.	.05½	.06½
THYME, Spanish, bales lb.	.06	.07
French, bales lb.	.05	.06
Tonga Root, bundles lb.	.25	.26
Bark, bundles lb.	.20	.21
Tonka Beans, Angostura Cases	1.50	1.60
Para cases lb.	.70	.75
Surinam cases lb.	.70	.75
Tragacanth Gum, No 1, 100 lb. cases lb.	.87	.95
No. 2 lb.	.70	.75
No. 3 lb.	.60	.70
Powdered, 50 lb boxes lb.	.70	.75
Turkish cases lb.	.45	.65
Turmeric Root Madras, bags lb.	.06	.06½
Aleppy bags lb.	.05½	.06
Powdered lb.	.11	.13
China bags lb.	.11	.12
Turpentine Venice True, 80 lb cases lb.	.32	.40
Artificial, 80 lb cases lb.	.17	.18
Uva Ursi Leaves, bales lb.	.05	.05½
Valerian Root, Belgium bags lb	.08	.09
VANILLA BEANS, Mexican, whole, cases lb.	3.50	4.25
Cuts, cases lb.	2.50	2.65
Bourbon, cases lb.	.90	1.35
Vetivert Root, 100 lb bags. lb.	.25	...
Violet Flowers, bags lb.	.90	.95
Wahoo Bark of Root, bags. lb.	.28	.29
Bark of Tree, bags lb.	.14	.15
White Pine Bark, Roseed, bags lb.	.06	.08
White Poplar Bark, bags lb.	.06	.07½
Wild Cherry Bark, Natural thin, Green lb.	.06	.07
Rossed bales lb.	.09	.10
Thick Rossed, bales lb.	.04	.05
Wild Indigo Root, bags lb.	.09	.10
Willow Bark, bags lb.	.05	.05½
White, bags lb.	.15	...
Witch Hazel Bark, bags lb.	.05	.06
Leaves, bales lb.	.06	.07
Wormseed, American, bags. lb.	.05½	.06
Wormwood, Herb, Imp., bales lb.	.08	.09
Yellow Dock Root, bags. lb.	.07	.08
Yerba Mate, bags lb.	.15	.18
Santa, bags lb.	.07	.08

Manufacturing Face Powder

(*Continued from page 483*)

It should be so constructed as to receive the entire batch, powder, color and perfume together. It should be absolutely dust-proof in action. It should mill the powder thoroughly so that both color and perfume are perfectly dispersed. It should be self-contained so that the effect of humidity will be minimized. It should be easy to clean. It should finish the powder rapidly: let us say a half hour for a batch regardless of size. It should be easy to load and to discharge. It should be available in a variety of sizes, so that the manufacturer who makes only fifty pound batches as well as he who makes a half ton at a time could find a machine for his individual capacity. The only equipment which measures up to these requirements that we have thus far discovered is the churn. (Incidentally, it might be well to mention that since the baffles, and, in some cases, even the milling rolls, are removable, the work of cleaning is much simplified. In a few moments the cylinder, the baffles and the rolls can be brushed or blown clean with an air gun.)

Powder must be sifted of course regardless of what kind of equipment is used—with the single exception of the pulverizer whose milling action is so powerful that even pieces of stones or wood would be reduced to the mesh of the face powder. In a recent paper we covered the question of sifting and we shall not now go into it excepting to emphasize the efficiency of the turbine sifter, which has been described previously by the writer.

This turbine sifter (See Drug Markets Catalogue & Directory P 4A) is the most rapid sifter of which we have knowledge. Literally, it sucks the powder in and sprays it through the screen almost as rapidly as it can be loaded. It consists of a vertical cylinder, with a feed hopper at the top and a discharge boot at the bottom. Within the cylinder and parallel to it the screen is located with a small areaway to allow the screened powder to drop into the discharge chute. Within the screen a central shaft holding a spiral is located. This spiral revolves at a speed of several hundred rpm, throwing the powder as it falls on it from the feed-hopper through the screen, whence it drops down into the discharge boot. Tailings are discharged at another port.

It seems at this writing that the ideal combination would be a centrifugal sifter discharging into a powder churn, which, after milling the powder suitably, would discharge the milled powder into the filling hopper of the filling machine on the floor below or into storage bins as required. This would give gravity flow and eliminate the need for bucket elevators to feed any of the units. At present, unfortunately, powder churns lined with glass or porcelain are not yet available. But the prospect is that they will be in the near future.

It might be mentioned in passing that the churn would have other uses as a mixer for toothpastes, shaving creams, cosmetic pastes and the like.

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The Use of the Carton

(*Continued from page 432*)

and go one step farther and wraps it in glassine paper, an effect of richness and distinction is achieved that would be difficult to surpass by any other means.

Because carton construction and carton design is making very rapid strides we shall outline some of them together with a reiteration of certain precautions to be observed in the construction of cartons for mechanical handling. One of the most interesting of recent developments is the trend toward half cartons, especially for hair preparations. These combine some of the advantages of the carton with product visibility, which some manufacturers regard as indispensable. Although progress has been made in the development of cartons with smooth transparent cellulose windows, they have only started to make their entry into this field. One can visualize a number of interesting applications for them. Another carton possibility, which no one seems to have thought of, is the use of the boat type carton wrapped in transparent paper. This would give the complete visibility characteristic of transparent wrappings, with the display, merchandising and protective features of the carton.

We have noticed with great interest the increasing perfection of carton stocks, printing inks, and especially the improvement in gold and silver coated boards. The latter tarnish less easily than they used to and will score without cracking. The boards best suited to the needs of this industry are: white patent coated news, white patent coated manilla, single clay coated long fibre, and double clay coated long fibre. The kind of board you select will determine the finish of the printed job. If you are designing a carton for a toilet preparation it may be desirable to use the double clay coated board as it will print better than the other kinds, it will score easily and the finished job will have a smooth, rich looking appearance. Tooth pastes, shaving creams, proprietaries and ethicals need no better stock than the white patent coated news which

prints and scores well and is less expensive than manilla.

For machine handling the primary consideration is *accuracy* in cutting, scoring and gluing the blanks. It takes but little to jam a cartoning machine—a frayed edge, an over-sized flap, a bead of glue or a bad scoring job may cause trouble. As we have discussed carton construction exhaustively in a previous issue of this paper we shall not go into it again. Usually trouble can be avoided by buying cartons only from experienced carton makers whose familiarity with cartoning equipment will lead them to take the necessary precautions to insure *absolute accuracy* in construction.

Isopropyl Alcohol

(*Continued from page 435*)

Chypre

240	Amyl salicylate
480	Terpineol
40	Patchouli
140	Oakmoss resinoid
100	Coumarin

These five formulas are from those given by Otto Gerhardt in his book "Das Komponieren in der Parfumerie," Akad. Verlagsges. Leipzig, 1931.

The following type formulas are from Alfons M. Burger's "Leitfaden der Modernen Parfumerie," Walter de Gruyter, Berlin, 1930. It should be remembered that all of these formulas are merely bases upon which the perfumer may make variations to suit his own needs or taste.

Lilac

50	Heliotropin
50	Anisyl formate
10	Coumarin
10	Ylang Ylang
125	Terpineol
125	Hydroxycitronellal
65	Benzyl acetate
30	Amyl cinnam. aldehyde
50	Nerol
75	Linalool
50	Hydratropic aldehyde (10%)
100	Phenyl ethyl alcohol
25	p-tolyl acetaldehyde
8	Methyl acetophenone
7	Indol
780	

Violet

300	Ionone 100%
30	Cananga
30	Methyl Heptine carbonate
40	Diphenyl oxide
60	Phenyl ethyl alcohol
120	Terpineol
150	Geraniol
30	Benzyl acetate
100	Hydroxycitronellal
40	Heliotropin
30	Musk ketone
100	Benzyl alcohol
1020	

Chypre

175	Lemon oil
175	Bergamot oil
100	Portugal oil
125	Oak Moss
75	Neroli
100	Amyl cinnam. aldehyde
48	Rose, bulg.
100	Phenyl ethyl alcohol
100	Benzyl acetate
2	Cuminic aldehyde
1000	

Fougere

300	Coumarin
10	Vanillin
10	Musk ambrette
10	Geranium Oil
100	Lavender oil
50	Lavender absol.
23	Oakmoss, colorless
27	Oakmoss, green
25	Bergamot oil
100	Citronellol
200	Styrax resin (20%)
100	Tolu balsam (20%)
75	Amyl salicylate
2	Patchouli oil
1032	

In addition to toilet waters and perfumes, isopropyl alcohol may be used to advantage in other cosmetic preparations intended for external use only, such as Bay Rum, Hair Tonics, Body Rubbing Alcohols, etc.

A suggestive type formula for Hair Tonic follows:

Quinine hydrochloride	0.2	gm.
Salicylic Acid	0.2	gm.
Glycerine	30	cc.
Isopropyl Alcohol	440	cc.
Perfume Oil, compounded for weak alcohol	5 to 10	cc.
Distilled water to make	1	liter

(Dissolve perfume and medicinal ingredients in the alcohol, add the glycerine and then the water. Color as desired with chlorophyll, cudbear, caramel, etc., chill and filter with talc).

A suitable formula for a lotion resembling Bay Rum is the following:

Oil of Bay (Myricia) West Indian	15	cc.
Oil of Pimento (Allspice)	0.5	cc.
Oil of Sweet Orange	0.5	cc.
Rum Essence, artificial (or Rum Ether)	2.0	cc.
Isopropyl Alcohol 91%	440	cc.
Distilled Water to make	1	liter
Borax	10	gm.

(Dissolve aromatics in alcohol, borax in water, add the water solution to the alcohol solution, chill and filter with magnesia or talc).

In chemical, biological and medical laboratories—isopropyl alcohol is also a useful solvent. It can be used for immiscible solvent extraction from aqueous solutions or from petroleum ether solutions, being thrown out from the former by salts or alkalies and from the latter by water. It can be used for reagent solutions such as phenolphthalein, methyl orange, guaiac, phloroglucin, dimethyl glyoxime, picric acid, etc., etc., as well as for standard soap solution for water testing and, with an addition of 20 per cent. of pure methyl alcohol, for standard alcoholic alkali. It may be used in staining solutions for bacteriological and pathological work.

A series of careful papers by Prof. H. A. Schuette and L. E. Harris has demonstrated the practicability of using isopropyl alcohol in the determination of saponification number, titer and acid number of fats and oils.

Handling Costs

(*Continued from page 436*)

invoice value of in the neighborhood of $25.00 or over that the handling cost percentage curve begins to flatten out appreciably.

The chart herewith presented illustrates the proportion of the invoice dollar consumed in these handling costs so clearly that further discussion would appear unnecessary.

It occurs that while the exact per cent. of invoice value represented by handling costs will probably vary some firm to firm, the general curve will probably be very much the same as shown in this instance for any firm, and that as a whole other manufacturers will find small orders to consume an unreasonable part of the invoice value in handling costs regardless of whether freight or delivery charges are paid or not paid by the customer.

The subject therefore appears worthy of some consideration on the part of all manufacturers with the view of converting small orders into larger ones.

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